

# **HEALTH AND FAMILY PLANNING SERVICES IN INDIA**

**An Epidemiological,  
Socio-cultural and  
Political Analysis and a  
Perspective**

**BANERJI**

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An analytic account of the growth and development of health services in India and discussion of the factors influencing their availability and accessibility to different segments of the population has been the main theme of this book. This needed a methodological approach based on concepts and methods of a wide range of disciplines and involved analysis and interpretation of considerable volume of information. Almost unwittingly, this theme has led to the conceptualisation of an interesting theory of health service development of a country: complex interaction of forces, with the social structure emanating from the modes of production being the prime mover, forms the base, which determines the size, shape and the nature of the superstructure of the health services. Development of a methodological approach and formation of postulates for a theory of health service development are the two distinguishing features of this book. It has been emphasised that health service development is a socio-cultural process, a political process and a technological and a managerial process, based on epidemiological and sociological perspectives.

The content is organised in six Parts : I. A broad cultural, social and political analysis of the factors which have shaped the basic elements of the health services. II. Programmes for communicable diseases. III. Population growth and family planning. IV. Formation of primary health care services. V. Aspects of intersectoral action for health. VI. Formulation of alternative approaches. Postulates of the proposed theory are elaborated in the Epilogue.

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An Epidemiological, Socio-cultural and Political  
Analysis and a Perspective

DEBABAR BANERJI



LOK PAKSH

First Published in 1985

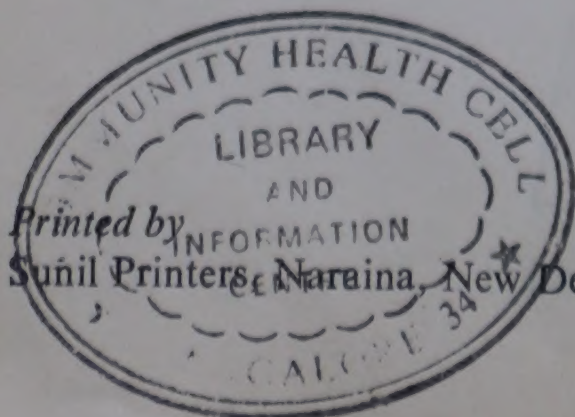
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## PREFACE

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Writing about health service development in India has involved analysis and interpretation of considerable volume of information of various types. This needed a new methodological approach based on concepts and methods of a wide range of disciplines. Coverage of such an extensive area also seemed to lead to the formation of a conceptual framework which might be of use in understanding the process of incorporation of science and technology in promoting growth and development of health services in other countries. Development of a methodological approach and formation of postulates of a theory of health service development are the two most distinguishing features of this book.

An ecological and cultural approach has been adopted here to analyse: (a) epidemiological behaviour of health problems in the country; (b) cultural meaning and perception of these health problems; (c) formation of various kinds of health technologies, practitioners and institutions, through cultural innovation and cultural diffusion and/or through purposive intervention from outside agencies; and (d) health behaviour of the people of the country. Over a period of time ecological and cultural conditions have undergone major changes, because of changes in economic, social, demographic and political conditions. These changes, in turn, have affected virtually every facet of the health service system in the country.

The sizable material on the subject is being presented in six Parts. *Part One* presents a very broad cultural, social and political analysis of the factors which have shaped the basic elements of the health service system of the country, namely, the institutions, the manpower resources and the organizational structure. In the first two chapters an attempt has been made to show how a combination of the colonial legacy, the democratic forces unleashed by the National Movement and the political power emanating from the social structure of the country, has influenced the policies, plans and programmes for health service development after India became independent. A brief overview of the health service development and description of the administration and organization, the institutional framework and the manpower resources constitute the remaining four chapters. (The political and socio-economic setting in the country is recapitulated briefly in Chapter 4 for those who are not familiar with it).

The next three Parts contain a fairly comprehensive account of the major health and family planning programmes of the country. They cover a substantial part of this book. This was the most difficult, most exacting and most time consuming part of the work. It needed very considerable efforts to retrieve from official sources key information on various aspects of a very large number of programmes, most of them spanning over a period of thirty-five years. Quite often some crucial data needed for this work was simply not available, because they were never collected. It was also a difficult task to organise the information and present them faithfully. While the main focus of the presentation is on the present status of the problems and the related programmes and on their performance and analysis and assessment, to offer a perspective, I had to briefly describe the sequence of decisions and actions which have finally led to the situation existing today.

Programmes for control/eradication of communicable diseases form the *Part Two*. The extensive area of population and family planning in India forms *Part Three*. Description of the integrated health services, with a special chapter on the Community Health Workers' (Guides) Scheme and programmes for maternal and child health and presentations on hospitals and medical care, analysis of primary health care, social science inputs in health service development and research and development are put together in *Part Four*.

*Part Five* includes programmes for nutrition and water supply and environmental sanitation, followed by a broader discussion of intersectoral action for health, with an analysis of the demographic changes in Kerala taken as a case. A critical analysis of the process of policy formulation and planning and formulation of alternative approaches, followed by a fairly detailed account of my own suggestions for health service development in India, constitute *Part Six*. Apart from including my specific works on new approaches to community involvement and health manpower development, I have also presented my own thinking on alternative programmes for rural health services, population control, hospitals as components of primary health care and for leprosy control.

An analytic account of the growth and development of health services in India and discussion of the factors influencing their availability and accessibility to different segments of the population has been the main theme of this book. Almost unwittingly, this theme has led me to the conceptualisation of an interesting theory of health services development of a country.

In the early colonial days, it was considered logical to adopt the Western Model for developing health services in India : medical colleges and other institutions for education and training of health personnel and hospitals, dispensaries and research institutions conformed to the Western Model; most important of all, medical professionals were sought to be

socialised in Western milieu, so that they could conform to Macaulay's vision of a Brown Englishman.

However, the most remarkable outcome of this account of the making of the health services in India is the realisation of the extent to which, over the years, the health services of the country has deviated from the Western Model. I am particularly struck by this movement away from the Western Model. It is surprising *how little* there is in common between the Western Model and that which obtains in India. Perhaps the only feature which is common between the two is that both use some elements of medical sciences. To me these elements of medical sciences appear merely as bricks of the edifices of two entirely different structures. Even these bricks are in different forms and are needed in different quantities in the two edifices.

The edifices are basically different in structure and function because they stand on different foundations—different infrastructures. Ecological conditions, epidemiological situations, choice of technology, socio-cultural, political and economic conditions form the major elements of the infrastructure, which determines the configuration of the superstructure, that is, the health services of a country.

Those portions of the graft of the Western Model on India which were not aligned to the infrastructure, have crumbled, while the others have remained intact. Concurrently, the dynamic forces generated within the infrastructure through struggle of the people have given shape to new forms of health services. The anticolonial struggle in India, which culminated in attainment of independence and, after that, continuing struggle of the masses to wrest their democratic rights from the ruling classes have been the major motive force which has brought about changes in the infrastructure. It appears to me that this has profound implications for developing health services of a country. The challenge is to build the edifice on the basis of a sound understanding of the infrastructural conditions prevailing in a country and understanding of the various forces which bring about changes within it. Medical sciences merely offer bricks of various types or qualities. Building an edifice is an entirely different task, requiring an entirely different quality of competence. I have added an Epilogue to the finalised draft to elaborate on this theory.

I have drawn extensively from almost all my major works. In writing this book. In this sense, it can be regarded as an integrated presentation of all my studies, which extend over three decades.

Earlier, on many occasions, I had been tempted to undertake this work; but I had backed out when I considered the forbidding problems of having the information base needed for such a venture. It is entirely due to persuasion and encouragement and as a measure of strong financial support to this project arranged by Shri Tarlok Singh on behalf of the Programme of South Asian Cooperation at the Indian Council of World Affairs that I had

succeeded in overcoming these apprehensions and taken the plunge. Subsequent events revealed that the problems were even more formidable than I had anticipated. However, I also feel that the outcome in terms of the intellectual satisfaction of undertaking such a venture was very much worth all the efforts.

I had completed the first version of this book in September 1982. Even this version covered a much wider range of issues than what was planned originally. This had already increased the work load considerably. However, when I was told that, if I needed, I could get some more time for this work, I simply could not resist the temptation of putting in much more extra work to further strengthen the earlier version. The momentum generated by the process of writing the earlier version turned out to be simply too powerful and too attractive for me. I found myself engaged in an almost total revision and reorganisation of the earlier version and considerable material was also added, which further increased the bulk of the book. Virtual rewriting of the earlier version also gave me an opportunity to include materials from some important official documents that had since become available to me. This work was completed in May 1983.

I had to stretch myself to the very extreme to meet the several-fold overrun in the time I had originally budgeted for this work. In addition to all the efforts needed for undertaking such an ambitious venture, I had also to divert considerable amount of my time in making up the big shortfall in the availability of some very routine assistance needed for undertaking such a work (e.g. arranging secretarial help, editing, locating and putting in the references, preparing tables, charts, etc.).

Preparation of the third version of this work for publication in the form of a single volume required still more efforts. I was fortunate to have assistance from Shri Samuel Israel for editing the voluminous second version. We both worked together for over eight months to totally reorganise the material and update the data once again and cut down the size of the second version by over sixty per cent. This was a very painful task. I had to agree to many of the deletions with great reluctance. This had to be done as the publisher insisted on having only a single volume. I take this opportunity to acknowledge with gratitude the help I have received from Shri Israel. I am aware that, despite all the efforts, there is still considerable scope for improving the presentation. Many errors also remain uncorrected. I am afraid, I had to apply the guillotine to avoid any further delay in bringing out the book.

Yet another difficulty arose when, after about eight months of negotiations, the prospective publisher expressed his inability to keep his time schedule because of problems with his printers. Under the circumstances it was considered worthwhile to undertake publication of this book as the first venture of a newly launched organisation—Lok Paksh. An account of the

efforts that have gone in the production, publication and distribution of this book should provide rich material for writing an instructive case study to show how different the 'Indian Model' of writing a book is from the 'Western Model'!

Shri Tarlok Singh has also been kind enough to offer very perceptive comments, observations and suggestions on the first version. I once again gratefully acknowledge his valuable help. As usual, my University provided me the appropriate academic setting and all the time for conducting such a work and it has made available many facilities. Indeed, I had ventured to accept the undertaking because I had the privilege of belonging to such an University.

I take this opportunity to thank Smt. Muni Devi Rastogi, Documentation Officer, Centre of Social Medicine and Community Health of Jawaharlal Nehru University, for providing documentation support. I owe a special debt of gratitude to Dr Lakhan Singh of the same Centre. He had been associated with the project since its inception and he had come to my rescue in many of the numerous crisis situations I had to face in the production of this book.

DEBABAR BANERJI

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and Community Health,  
Jawaharlal Nehru University  
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October 31, 1985.



## PUBLISHER'S INTRODUCTION

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Publication of this book is the first venture of Lok Paksh. It is expected to be a part of a wide range of activities of this organization. As the name implies, Lok Paksh is meant to take the side of the people—particularly the dispossessed and the oppressed—in their struggle to improve their health status. It is meant to play an advocacy role—as people's partisans. It is meant to provide a platform for education, training, research, implementation and evaluation aspects of the health services in India. As ecological, cultural, social, economic and political conditions are crucial not only in determining the health status of a population, but also in shaping its health services, these areas are also of deep interest to Lok Paksh.

The approach has necessarily to be broadbased, often requiring interdisciplinary inputs. It is proposed to perform these functions by:

1. Providing a forum to raise issues concerning health of the people through: (a) preparation of documents and books and their publication and distribution; (b) organising seminars, symposia, meetings, etc.; (c) providing information and mobilisation of public opinion on health issues; and, (d) making available its publications to selected persons and groups at subsidised rates.
2. Projecting the case of the oppressed, the underserved and the unserved people of India for their rightful share in all activities affecting their health, including health services and where necessary, initiating active social action to fight for their rights.
3. Subordinating medical science and technology to the needs of the people—particularly the oppressed, the underserved and the unserved—by participating in the development of people-oriented technologies.
4. Providing consultation to other agencies interested in developing people-oriented health activities.
5. Undertaking research assignments in areas related to health status of people.
6. Undertaking specific projects related to policy formulation, planning, implementation and evaluation in health fields.

7. Developing interdisciplinary research and consultation activities to promote intersectoral action for health.
8. Developing concepts and methods to elaborate on ecological, epidemiological, cultural, social, economic and political aspects of health and health services.

Because of its ambitious plans and perspectives, particular care is taken that Lok Paksh takes the first tentative steps with utmost caution. Its initial activities will be mainly confined to a few selected publications. Apart from publication of this book, Lok Paksh has also published the Epilogue of that book as an independent booklet under the title : *The Making of Health Services in a Country : Postulates of a Theory*.

Lok Paksh thanks Shri Naurang Rai of Concept Publishing Company, New Delhi and Shri Jeet Ram of Sunil Printers, New Delhi for their valuable advice in the production of its maiden publications.

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## PART ONE

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# HEALTH SERVICES IN INDIA THEIR SOCIAL AND POLITICAL CONTEXT

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## ENVIRONMENTAL SETTING AND POLITICAL ECONOMY OF HEALTH AND HEALTH SERVICES

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### DETERMINANTS OF COMMUNITY HEALTH PROBLEMS AND HEALTH PRACTICES

BOTH the health problems and the health practices of a community are deeply embedded within its ecological, social, economic and political systems. These have a profound influence on the size, extent and nature of community health problems. They are also of critical importance in the formulation of policies, plans and programmes for dealing with them. Obviously then, health services are but one of the many factors that influence the health status of a population. Furthermore, as in the case of the other factors which influence the health status of a community, its health services are a function of its political system. Political forces play a dominant role. Decisions concerning resource allocation, manpower policy, choice of technology and the degree to which health services are made available and accessible to different segments of the society are examples of the manner in which the political system shapes community health services.

Looking back on the evolution of health and other social services in India, it becomes clear that the health policy for India of the British colonialists was distinct from that urged by the leadership of the national movement and, consequently, that adopted by successive governments of independent India. Indeed, each pattern of approach to health care emerges as a logical outcome of a given political, social and economic system. These forces generate an unwritten policy frame which influence the health of a population.

For instance, neglect of indigenous systems of medicine or of the health needs of vast masses of people, and active promotion of dependence

on British medical personnel, institutions and industry can be expected as the logical outcome of the working of the British colonial system of government of India. Similarly, the spectacular increase in the output of doctors and the curative, privileged-class and urban orientation of the developing health services in independent India is no random phenomenon, no unforeseen or unintended outcome of earlier developments.

Interaction between certain aspects of the way of life of a community (its culture) and its environment, in the widest sense of the term, determines its state of health and disease. Again, the culture of a community determines its health culture (Banerji 1982a : 2): that is, the cultural meaning of the health problems of the community, its perception of these problems and the means it adopts for dealing with them, both in terms of formation of various health institutions and the health behaviour of individuals or groups. Because of its cultural connotation, health culture undergoes change with change in the overall culture as a result of cultural innovations and cultural diffusion. It may also change as a result of purposive intervention from outside aimed at bringing about a desired change. Conversely, any change within the health culture of a society has repercussions on its overall culture.

## SOCIAL HISTORY OF HEALTH SERVICES

In the pre-industrial era, communities developed their respective health cultures in tune with their overall ways of life. The more organised and sophisticated the way of life of a community, the more developed was its health culture and *vice versa*. However, since at this stage of man's history the way of life was, by and large, rather simple, so was health culture. The outstanding feature of health practices in the pre-industrial era was that they were mostly evolved by the communities themselves in response to the health problems they encountered, although there was some degree of diffusion to and from the health cultures of surrounding communities.

Urbanisation, the institution of slavery, mining activities and warfare frequently led to a disruption of the existing state of equilibrium and the establishment of a new one which was often unfavourable to the common people. However, because of the relatively small populations usually involved, and because health culture was still very rudimentary, the impact of such upheavals on the total population of a region, particularly on health culture, was rather limited.

The disruption of the old equilibrium brought about by the Industrial Revolution was, however, much more profound and widespread than any brought about by earlier social upheavals. These affected social, economic and political relations as well as the health culture very substantially

(Rosen 1958 : 192-206). Technology became a potent force in the hands of the exploiting classes. A large number of labourers, who were employed in factories in the early phases of the Industrial Revolution, had to endure poverty, hunger, long working hours under trying conditions, inadequate clothing, overcrowding, poor housing and filthy environmental conditions. This led to widespread suffering due to such health problems as under-nutrition, malnutrition, diseases of childbirth, childhood disorders and high incidence of smallpox, typhus, cholera, dysentery, tuberculosis, typhoid, worm infestation and other communicable diseases.

It is noteworthy that the rapid growth of the Western system of medicine during the Industrial Revolution was *not an independent phenomenon* (Rosen 1958 : 231-32). It was not promoted to alleviate the ills from which the common people had always suffered but principally to meet the health problems that had in fact been generated by the serious disturbance in human ecology brought about by the Industrial Revolution.

It is also significant that when widespread suffering created a political and social counter-reaction, and when it was realized that social problems were threatening industrial production and profits, the very technological forces which had earlier caused this suffering were deployed by the captains of industry (who also had the political power) to develop the Western medical system. Economists, who had hitherto regarded expenditure on health care as a consumption item, came to realise that allocations for this purpose were also investments—for increasing the productivity of labour (Mushkin 1973; Rosen 1958 : 344). Concurrently, principally because of internal tensions and conflicts within the social and political systems of the industrialised countries, the welfare state movement made rapid gains in many of these countries (Rosen 1958 : 439-96). These two developments acted synergistically to increase several-fold the trickling down of health care services to segments of the population in the industrialising countries that had hitherto been unserved or underserved.

This brief analysis also explains why the very technological forces which allegedly enabled the industrialised countries to 'conquer' their earlier health problems were also instrumental in creating conditions which actively promoted a 'second generation' of health problems, for example, automobile accidents, increasing prevalence of mental health problems, problems of the elderly, alcoholism and drug addiction.

Yet another motive force for the expansion of the health care system in industrial countries has been the business world's recognition of the fact that the health service system is itself an 'industry'. The health industry is now regarded as a thriving social-service-based one with virtually endless potential for swelling the GNP (McKight 1978; Lalonde 1974). As a result of the concerted efforts of the business interests of the health industry, people have been induced, by the classical techniques of sales

promotion, to increase their dependence on it and the industry has thus been able to maintain its rapid rate of growth. An entirely new folklore has been created to reinforce this dependence (Illich 1977 : 40-48). The medical establishment not only generated new health 'needs'; it has also determined how these needs were to be met (Illich 1977 : 32). Its growth has been so rapid that the artificially induced dependence elements of the health care system have now far outstripped the suffering-alleviation elements. Worse still, this monstrous growth of the dependence elements has actually started to cause suffering among its victims by actively creating diseases, the iatrogenic diseases as they are called (Illich 1977 : 26-32). As Illich points out, this pattern of growth of the medical establishment is proving to be its own nemesis (Illich 1977 : 62-66). It might well turn out that this medical nemesis now evident is merely the tip of an iceberg heralding a nemesis of the entire social, economic and political system which is engaged in a wild chase to increase the gross national product (Illich 1977).

An even worse fate was in store for countries colonised by the industrialised nations. The establishment of health services in these countries was made subservient to the overall imperial policies of promoting metropolitan economic growth. The colonial countries were plunged straight from a pre-industrial health culture into a colonial health culture (Banerji 1979a).

Large masses of people were impoverished and pauperised. As a result, they were unable to maintain the health services which they had developed as a component of their overall way of life. This vacuum was filled by faith healers, sorcerers, magicians and other quacks who exploited the suffering of the people for their own gain. Moreover, unlike the position in European countries, in the colonies the imperial power did not need to pay much heed to public opinion on the sufferings of the people. They could get away with much more ruthless oppression of the working classes of the subject races. For the same reasons, they were able to sustain this oppression for a much longer period than at home. Also, there were no welfare state lobbies in the colonies. Even long after colonial rule ended, allocations for health services in the ex-colonies continued to be considered by economists as expenditure that brought no return, as the exploiting classes had an abundance of cheap labour at their disposal (Banerji 1979a).

## **HEALTH CULTURE OF INDIA**

The history of the Indian sub-continent provides an example of the influence of various social, political, and economic forces in giving shape

to a health system. Henry Sigerist (Marti-Ibanez 1960) has drawn attention to this by contrasting the manifestly high standards of environmental sanitation of the Indus Valley period with the level of sanitation that exists in India today. When describing the planned city of Mohenjo Daro of 5000 years ago, Marshall (1931) remarked that its public health facilities were superior to those of all other communities of the ancient orient. Almost all households had bathrooms, latrines, often water closets, and carefully built wells. The elaborate ancient Indus Valley public health organisation is an indication of the extent of health consciousness among the people of those times. It is difficult to imagine the nature of health problems of those days, but the emphasis on preventive aspects of health care indicates a fairly mature attitude towards health.

Vedic medicine, which developed after the migration of the Aryans to the Indus Valley (probably during the 2nd millennium B.C.), took the 'momentous step from magico-religious therapeutics to rational therapeutics' (Chattopadhyaya 1977 : 4). This was a pre-Buddhist phenomenon (Chattopadhyaya 1977 : 341). But for this secular deviation, Indian medicine would have remained part of scriptural lore with its origin in supernaturalism and mystification of nature. Physicians created a methodology based on the supreme importance of (a) direct observation of natural phenomena and, (b) the technique of rational processing of empirical data. According to them, the therapeutic power of physicians lay in their understanding of the laws inherent in nature, which governed both man and nature and emphasising their identify. The interaction between body matter and environmental matter determined disease and health.

The pharmacology which ayurvedic medicine developed is colossal and is significant for giving direction even to current pharmacological research.

The Buddhist medical text, *Milindapanha*, of around the 1st century A.D., also adhered to rationalism and secularism and, like the Vedic texts questioned and in many particulars, even rejected the laws of *karma* while stressing the physician's curative and preventive roles (Chattopadhyaya 1977 : 343).

The famous decree of Emperor Ashok Maurya (279-236 B.C.) in his second Rock Edict (257-256 B.C.) speaks of 'celebrating the organisation of social medicine shaped by the Emperor along with the lines of Buddhist thought and kindred ethics (dharma)' (Zimmer 1948 : 86). According to Zimmer (1948), by the 10th century A.D., often referred to as the age to Indian Renaissance, the scientific core of Indian medicine had reached its high point and social medicine was being practised in various parts of the sub-continent, including the southern peninsula.

The texts passed through the hands of physicians, priests and others who, over time, either detracted from or added to their scientific value. Al Biruni, the visiting scientist from Central Asia (A.D. 973-1048), who

came to India in the early part of the 11th century, spoke of the practice of herbal medicine: 'Its principles restore the health of those who were ill beyond hope, and gives back youth to fading old age' (Chottopadhyaya 1977 : 43).

During subsequent centuries, a series of political, social and economic developments disturbed the ecological balance in Indian society. Perhaps the most acute phase of this ecological crisis was during the decline of the Mughal Empire. This situation, in conjunction with Western organisation and expansion, set the stage for the British conquest of India. However, even during this period, Indian medicine retained some fragments of its past heritage. For example, the surgeons of the East India Company learned the art of rhinoplasty from their Indian counterparts (Basham 1954). It is noteworthy that during the early period of British rule in India (the late 1700s), the Western system of medicine was still dominated by such procedures as purging, leeching, scarification, and blood letting, and therefore could not be considered superior to the prevailing Indian systems (Rosen 1958 : 129).

However, as a result of the colonial policy of shifting state patronage from indigenous systems to the Western system, the already stagnant indigenous systems were caught in a vicious circle. The very neglect accentuated their decline, and the decline in turn made it increasingly difficult for indigenous systems to compete with the highly favoured and rapidly flourishing Western system for the support of the newly emerging Indian elites educated in the Western style (Banerji 1975b).

While colonial exploitation was steadily impoverishing and even pauperising large masses of the Indian people, causing complete disruption of their traditional way of life, including the health practices they had developed over the centuries, they were denied the benefits of Western medical science. Thus at a time when spectacular developments were taking place in different branches of the Western system of medicine, the indigenous systems of medicine came to be dominated by persons with very limited competence, sometimes even by quacks and impostors, and the very scientific bases of these systems was almost totally eroded. As mentioned earlier, the resulting vacuum was filled by a variety of superstitious practices and beliefs in supernatural powers and deities (Banerji 1975b).

Colonial exploitation also created adverse environmental conditions which further accentuated health problems. The increased prevalence of disease generated by disruption of the ecological balance, the breakdown in pre-existing health practices, and the denial of access to the Western system of medicine, combined to considerably worsen the condition of the masses, making them even more vulnerable to exploitation. At the same time, their oppressors acquired additional strength by using the fast-developing know-

ledge to avoid sickness themselves and obtain prompt and efficacious alleviation when they fell ill. The health services thus became yet another powerful weapon for the perpetuation of colonial rule (Banerji 1979a).

It is unfortunate that most social scientists who have studied the health culture of rural populations in India have over-stressed the prevalence of superstitious health beliefs and practices (Paul 1955). They have not paid adequate attention to the powerful social, economic and political forces instrumental in causing the decay and degeneration of rural health culture (Banerji 1975b). Worse still, even in their descriptions of the existing situation, they have betrayed a pronounced ethnocentric bias. Marriot's study of Western medicine in a northern Indian village (Marriot 1955) is an example. He describes in detail how the only wage-earning son of a poor labourer did not accept the calcium lactate and shark liver oil prescribed by a doctor (who, incidentally, was a white man and a missionary) for his tuberculosis and instead incurred debt in order to buy a preparation of honey and gold which had been made and guaranteed by an indigenous practitioner. However, a carefully designed sociological study (Banerji and Andersen 1963) of cases of tuberculosis in rural Tumkur District in Karnataka revealed that more than half the tuberculosis victims visited a government institution of Western medicine, where they were almost invariably sent back with a bottle of useless cough mixture! Similar results were obtained in an intensive study of the overall health behaviour of rural populations which included nineteen villages located in eight states of the country (Banerji, 1973d). Studying a village in Tamil Nadu, Djurfeldt and Lindberg (1975) came to a similar conclusion.

## THE COLONIAL LEGACY

By the time India attained independence, the interplay of political, economic and social forces had created an ecological setting conducive to very widespread prevalence and high incidence of a variety of diseases. In the course of the two hundred years of colonial rule, almost every facet of life in India was subordinated to the commercial, political and administrative interests of the ruling power.

The country was very backward in both agriculture and industry. Class, caste and religion had helped divide society into a very tiny minority of highly privileged persons at one extreme and a huge mass of underprivileged and exploited people at the other. India was (and unfortunately continues to be) a desperately poor country. The poor suffered intense hardships : hunger and malnutrition were almost universal; milk for most children was an unattainable luxury; half the children born to a woman died before she completed her child bearing period; clothing consisted

mostly of rags which barely covered the body; dilapidated huts in grossly insanitary surroundings served for dwellings; more than nine-tenths of the population was illiterate and, of the few children who were sent to school, the great majority dropped but well before they could complete even four years of schooling (National Planning Committee 1948 : 19; Banerji 1971a : 33).

According to the Sub-committee on National Health of the National Planning Committee (NPC) (National Planning Committee, 1948 : 20-21):

The large amount of preventable suffering and mortality in the country is mainly the result of inadequacy of provision in respect of these fundamental factors. Environmental sanitation is at a low level in most parts of the country; malnutrition and under-nutrition reduce the vitality and power of resistance of an appreciable section of the population, and the existing health services are altogether inadequate to meet the needs of the people, while lack of general education and health education add materially to the difficulty of overcoming the indifference and apathy with which the people tolerate the insanitary conditions around them and the large amount of sickness that prevails.

The picture is one of exploitation, oppression and denial of equality, which are at the root of the main health problems of the underprivileged.

When India became independent in 1947, in terms of mortality and morbidity, she ranked low among the nations (Government of India 1946a : 4). Expectation of life at birth was 26.9 for males and 26.5 for females. Nearly half of the total number of deaths were among children under the age of ten and, in this age group, half of the mortality took place within the first year of life. The Sub-committee on National Health (National Planning Committee 1948 : 25) gave a table setting out number of deaths in specific age-groups as percentages of total deaths at all ages as follows :

Under one year	24.3%
One to five years	18.7%
Five to ten years	5.5%
Total under 10 years	48.5%

One hundred and sixty-two out of every 1,000 children born alive died before they were one year old. For every 1,000 live births, as many as twenty mothers lost their lives. Malaria, the predominant of the communicable diseases, accounted for an estimated 100 million cases, every year, out of which one million died (National Planning Committee 1948 : 20). Tuberculosis, cholera, smallpox, enteric fevers, dysenteries, tetanus

and diphtheria also took a heavy toll of life. Millions became blind due to trachoma, conjunctivitis, smallpox and injuries; many more were crippled or debilitated due to leprosy, filaria, worm infestations and venereal diseases.

Laxmibai Rajwade, writing in the early forties on infant mortality and mortality among women, gave a graphic description of the prevailing state of health (National Planning Committee 1948 : 119-20).

... to keep up this interplay of life and death about 20 mothers have to starve or poison themselves to death for each thousand of births; that out of the thousand children born at such awful cost nearly 175 to 200 (the actuarial figure for 1921-31 is 241) die before they are a year old; that on the scarred survivors of this stupendous ordeal is laid the responsibility of reproducing and building up their race in this land—when we look at the problem in this way, surely we can no longer remain content with the half hearted and largely ineffective course which we have so far pursued in this country.

The Sub-committee of the National Planning Committee (NPC) pointed out that the statistics pertaining to infant and maternal mortality were subject to a wide margin of error and that they did not reflect the full magnitude of the problem. 'What it means in terms of damage to the future of the race and of continual loss in national or social efficiency may easily be imagined', the NPC Sub-committee said (National Planning Committee 1948 : 122). Elsewhere (National Planning Committee 1948 : 18), the Sub-committee noted :

Several diseases which are recurrent, almost epidemic, are constantly cropping up, even though modern science and medical technique have discovered ways and means effectively to prevent them, or immunise the human system against their attack. Smallpox can be eliminated; plague or cholera inoculated against; malaria abolished or cured by specifics; tuberculosis, blindness, leprosy guarded against or effectively treated, which for lack of adequate wealth cannot be so dealt with. That is why the tragedy of low vitality and long suffering becomes grimmer and greater, because it is all so unnecessary, so easily avoidable, so effectually curable.

On the eve of independence, medical services were scattered and highly inadequate, not only in number but in the kind of medical care they delivered. Rural populations in particular were starved of services. In the United Provinces, one institution served a population of about 105,626 inhabiting about 202 villages (Government of India 1946a : 4). The total

number of beds available were 73,000 or 0.24 per thousand population. The same dismal picture existed with regard to health personnel. A ratio of one doctor to 6,000 population, one nurse to 43,000, one health visitor to 400,000, one midwife to 60,000, one qualified pharmacist to 4,000,000 and one dentist to 300,000 (Government of India 1946a : 5).

The health service system at the time of independence was achieved projected the political, economic and social values of the colonial rulers. Medical services were needed to support the British army and British civilian personnel living in India. Later on, medical services were made available to the native gentry who constituted a tiny fraction of the total population. Among the rest, more than ninety per cent of the population, only very few could get some form of medical care from the extremely limited number of hospitals and dispensaries run by government agencies, missionaries, philanthropic institutions and private practitioners. Similarly, public health services were provided only when there were massive outbreaks of epidemic diseases such as plague, cholera and smallpox (Government of India : 1946b 35-49). Personnel of the Indian Medical Service (IMS) of the British Indian Army played a key role in framing this colonial pattern of health services of India.

The Indian Medical Service embodied all the shortcomings of colonial medical services (Roy 1982b). Firstly, its backbone was the Army Medical Corps which, in any case, did not attract the cream of the profession. The army being a colonial one, it probably inducted even more mediocre personnel than were recruited for the home army. Secondly, and most important, this set of second-rank professionals held, in effect, complete sway over the Indian medical and health services. And within their ambit of influence also came the native professionals, many of whom they patronised and modelled to their own prototypes to carry forward the tradition of the colonial medical services (Banerji 1975 b).

## COLONIALISM, THE NATIONAL MOVEMENT AND HEALTH SERVICES

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AN IMPORTANT feature of health policies, plans and programmes in India is that they originated during the national movement against colonial rule. The National Planning Committee (NPC) of the Indian National Congress was set up in 1938 (National Planning Committee 1949). The then President of the Congress, Subhash Chandra Bose, nominated Jawaharlal Nehru Chairman of the Committee. This Committee set up a Sub-Committee on National Health which made a penetrating assessment of the then health situation and health services in the country and recommended measures for their improvement.

The Health Survey and Development Committee, generally referred to as the Bhore Committee (Government of India 1946a), though it was set up by British colonial authorities (1943), was greatly influenced by the aspirations of the national movement. In fact, several of its influential members had been in the forefront of the struggle for independence. The Committee's impact is also clearly seen in the shaping of health services in independent India.

In following the policy frame for health services which had begun to take shape during the freedom movement, independent India embarked step by step on implementation of a comprehensive rural health service through Primary Health Centres, health planning as part of the national socio-economic plan, mass campaigns against communicable diseases, social orientation of education and training of health workers of various kinds, population control through a national programme for integrated family planning, promotion of indigenous systems of medicine, provision of adequate protected water supply, environmental sanitation, and nutrition programmes.

These trends culminated in the launching of the Multipurpose Workers Scheme in 1972 (Government of India 1973a), aimed at providing

entire packages of health services through male and female multipurpose workers. In 1977, the Rural Health Scheme for entrusting 'People's Health in People's Hands' (Government of India 1978a), through health workers chosen by the community, was launched. India can thus be said to have generally anticipated the primary health care approach adopted by the international conference on this subject organized by the World Health Organization and UNICEF at Alma Ata in 1978 (World Health Organization 1978).

## HEALTH ISSUES AND THE NATIONAL MOVEMENT

Some of India's most eminent medical professionals like Dr B.C. Roy, Dr A.R. Ansari, Dr Khan Saheb, Hakim Ajmal Khan, Dr Jivraj Mehta and Dr N.M. Jaisoorya, occupied leadership positions in the national struggle (Roy 1982a; National Planning Committee 1948). Inspired by the welfare state movement in the United Kingdom and socialised health services in the Soviet Union, they demanded a more egalitarian health service system and made this demand an important plank in the anti-colonial struggle.

Dr B C. Roy's Presidential Address (Roy 1982a) at the All India Medical Conference at Lahore in 1929 is quoted extensively below as it presents many important facets of activities in the field of health during the national movement. Starting with the question of involving practitioners of indigenous systems of medicine (vaid and hakims) in the recently established Indian Medical Association, he observed :

Should we restrict the membership to such persons only as follow the Western system of Medicine ? . . . If we take medicine merely as a science it may be argued that only those who are trained on scientific methods prevalent in the West should be eligible to be members. But to my mind it is taking a very narrow view of the whole matter. On the other hand, if we define science as a systematised branch of human knowledge we cannot ignore other systems . . .

. . . it is not for us to cut off from the past systems but it is necessary to resuscitate them and to develop them. If we desire to do so, we cannot afford to keep out the Vaid and the Hakim. We cannot ignore them . . . if we regard medicine as an art of healing, who is there so bold as to say that the art is the exclusive achievement of one system?

Taking note of the strong colonial influence in the making of a physician in India, he called for efforts to promote self-reliance and self-confidence and to make medical education relevant to Indian conditions :

We know we have been wronged in the past. We do not desire to depend on others. We, therefore, desire to utilise such powers as the Universities and the Councils of Medical Registration in different Provinces have given us for the purpose of developing medical education in our own way.

Discussing the deplorable level of health in India, he called for an organised voluntary effort by the Association to improve the situation :

I now pass on to the third item with which I proposed to deal, namely, the fight against disease, the provision for medical relief and the prevention of disease. It is a sad spectacle to see that while during the last 10 years the birth rate in India varied between 35 to 39 per thousand of population, the death rate varied between 26 to 32 per thousand. . . . When we came to the preventable diseases in India we find that 230 persons per hundred thousand die of preventable diseases like cholera, smallpox, plague and dysentery. On the other hand, the infant mortality rate in India is as high as 250 per thousand births. In England, it is 78 per thousand births, in Germany it is 132 per thousand births and in France 103 per thousand births. A question, therefore, naturally arises, can nothing be done to prevent this enormous loss of manpower in India, for it must be remembered that of every 100 persons who suffer from Cholera or Kala-Azar, although 2 per thousand may die, large numbers are maimed for life? It is for you to come to a decision regarding a method to be adopted for preventing diseases. *It is not necessary for me to mention that the history of the Government during the past 100 years has been such that we need not look for help or inspiration from the authorities. If we mean to do anything we shall have to do it in spite of the Government. We must organise ourselves, Voluntary organisations have to be formed for social service, for giving aid during epidemics, for the medical inspection of school children, for rousing sanitary consciousness amongst the masses [italics added].*

Dr Roy concluded his Address with a forthright assertion that the Association had an important role in the political struggle that was going on at that time :

But there is one question which has often been asked and which I desire to deal with shortly before I conclude. It has been asked whether a member of the profession should interest himself in any matter outside the four corners of his professional life, whether this

Association should take up matters which, in common parlance, are dubbed political? Gentlemen, I have very definite views on this question. In India, we have never regarded the various affairs of life as being in watertight compartments: politics, technically so called, is intermixed with economic, social, and medical problems. If politics means the science of organisation for the purpose of securing the greatest good for the largest number, I declare, we members of the profession dare not keep away from politics.

In the city of Calcutta alone, the movement among medical men initiated by Dr Roy led to the establishment of the Carmichael (R.G. Kar) Medical College, the Institute of Medical Research, the National Medical Institute, the Jadavpur Tuberculosis Hospital, the Chittaranjan Seva Sadan, the Bengal Immunity Research Institute and the Bengal Chemical and Pharmaceutical Industries. The Indian Medical Association (and the Indian Science Congress) also came into being in the city during this period. All these formed the background for the demand for a national health service for India. Many nationalist minded physicians became members of the newly established Medical Council of India, (Roy 1982b) and Dr B.C. Roy was elected as its first President (Panja 1982).

A member of the National Health Sub-Committee of the National Planning Committee (NPC), Col S. Abdur Rehman, himself a physician trained in the United Kingdom, provided profound insights into the political economy of indigenous systems of medicine in India (National Planning Committee 1948: 190). According to him, the ayurvedic and unani systems had made valuable contributions to the Indian culture of healing. With the advance of Western science, medicine took rapid strides which raised it to the level of an international science. As such 'its position of utility to mankind and the common features all over the world despite other differences compels us to recognise that as a scientific phenomenon, there can be only one medical system', he observed (National Planning Committee 1948: 190). Circumstantial constraints isolated the Indian systems from the international stream and because of British rule and its prejudices, the unani and ayurvedic systems 'fell from the graces of the State and the powers that be' (National Planning Committee 1948: 191). Two centuries of neglect took their toll and the systems degenerated, instead of developing a scientific body of knowledge. In the twentieth century, however, these systems were being revived by pioneers who realised the urgent need of keeping alive practices which had withstood the test of time, of making them part and parcel of international medicine. The greatest of these pioneers, Dr Rehman said, was Hakim Ajmal Khan who founded the Ayurvedic and Unani Tibbia College in Delhi for this purpose.

Dr Rehman strongly favoured this scientific revival of traditional systems to serve the peculiar needs of tropical areas and, after independence was won, his recommendations concerning the setting up of institutions for achieving this were implemented by state and Union governments.

### **REPORT OF THE SUB-COMMITTEE ON NATIONAL HEALTH OF THE NATIONAL PLANNING COMMITTEE**

Colonel Santok Singh Sokhey of the Indian Medical Service was the Chairman of the NPC Sub-Committee on National Health; Dr B.C. Roy, Dr G.V. Deshmukh, Dr J.C. Ray, Col S. Abdur Rahman and Col J.K. Kripalani were among its distinguished members. It was set up in 1938 and submitted an Interim Report in 1940. However, because of the intensity of agitation for independence at that time (Quit India Movement), the Second World War and the achievement of independence, its final report could be submitted only in 1948. Nevertheless, the recommendations and resolutions of 1940 are of great significance in tracing the roots of future policy in the field of health.

The remarkable foresight of the Sub-committee is reflected in the very contemporary tenor of the resolution adopted by the NPC on August 31, 1940, on the basis of this report. The integration of curative and preventive functions in a single state agency was urged and it was stressed that the maintenance of the health of the people was the responsibility of the state. To meet the immediate situation, the need for training large numbers of health workers in practical community and personal hygiene, first aid, and simple medical treatment, with stress on the social aspect and implications of medical and public health work, was emphasised. The provision of one health worker for every thousand of population was aimed at within five years. Ultimately, one fully qualified medical man or woman for each 1000 persons and one hospital bed for every 600 persons were envisaged. Intermediate targets were also laid down. Practitioners of the ayurveda and unani systems were to be drawn into the state health system, after giving them further scientific training when necessary. Other aspects covered were nutrition, expansion of medical education and research, compilation of an Indian pharmacopoeia, and production of drugs.

Thus, even as early as 1940, India's leaders had already envisaged a people-oriented health service. Significantly, the Final Report of the National Planning Committee categorically stated (National Planning Committee 1948: 22) that 'the cornerstone of the scheme we recommend is a (Community) Health Worker'.

The NPC also endorsed the findings and recommendations of the Bhore Committee (Government of India 1946a) which had submitted its report in 1946. It described them as being 'of the utmost significance', because it felt that this committee was a fully representative body consisting of nine officials, including the Minister of Health, the Director-General of the Indian Medical Service, some Surgeons-General from leading Provinces and 16 non-officials, including private practitioners of international fame and members of the Central Legislature. It also had the advantage of discussing problems with distinguished health workers from the United Kingdom, USA, USSR, and Australia (National Planning Committee 1948 : 229-30).

The Bhore Committee Report is to this day regarded as an authoritative document, not only because of its distinguished authorship but also because many of its proposals and recommendations continue to be pertinent and valid even today. It is therefore necessary to deal with the recommendations of this committee at some length.

### **Health Survey and Development (Bhore) Committee**

The Bhore Committee was set up under propitious circumstances. In 1943, the freedom movement was nearing its climax. The end of colonial rule was in sight. The setting up of the Beveridge Committee in the U.K. represented a landmark in the welfare state movement and developments in the Soviet Union also exerted a positive influence and it had by then joined the allied powers in the war against fascism. The committee was a broad-based one (Government of India 1946a : i-ii). The people's point of view was represented by persons like B. Shiva Rao, L.K. Maitra, P.N. Saprú, and N.M. Joshi; Dr B.C. Roy, Dr Vishwanath and Professor M.A. Hameed were members of the Medical Council of India. Dr J.B. Grant, a pioneer in public health and Director of the All India Institute of Hygiene and Public Health, was a member and he also secured the assistance of Dr Henry Sigerist of Johns Hopkins School of Hygiene and Public Health and Dr Ognev of the Soviet Union. Public health specialists like Dr A.C. Banerjee of the United Provinces and Dr A.H. Butt of the Punjab, supported by Dr K.C.K.E. Raja and Dr K.J. Jungalwala, lent their expertise in working out a detailed strategy for attaining the objectives set.

The report was submitted to government in 1946. The several minutes of dissent based on cogent arguments on one or more of the issues discussed indicated the depth of individual involvement as well as the depth of agreement on points where there was no dissent.

The guiding principles adopted by the Bhore Committee were (Government of India 1946a : v-vi):

1. No individual should be denied adequate medical care because of inability to pay for it.
2. The health services should provide, when fully developed, all the consultant, laboratory and institutional facilities necessary for proper diagnosis and treatment.
3. The health programme must, from the beginning, lay special emphasis on preventive work.
4. Medical relief and preventive health care must be urgently provided as soon as possible to the vast rural population of the country.
5. The health services should be located as close to the people as possible to ensure the maximum benefit to the communities served.
6. The active cooperation of the people must be secured in the development of the health programme. The idea must be inculcated that, ultimately, the health of the individual is his own responsibility.
7. Health development must be entrusted to ministers of health who enjoy the confidence of the people and are able to secure their cooperation.

The Bhore Committee also emphasised the need for social orientation of medical practice and a high level of public participation (Government of India 1946c : 18). The physician of tomorrow must be

a scientist and social worker, ready to cooperate in teamwork, in close touch with the people he disinterestedly serves, a friend and leader he directs all his efforts towards the prevention of disease and becomes a therapist where prevention has broken down, the social physician protecting the people and guiding them to a healthier and happier life. . . .

A health organisation enriched by the spirit of such a medical profession will naturally work towards the promotion of the closest cooperation of the people. It will recognise that an informed public opinion is the only foundation on which the superstructure of national health can safely be built.

The Bhore Committee made two types of recommendations: one under a comprehensive blueprint for the somewhat distant future, stretching over twenty to forty years, and the other a short-term scheme covering two five-year periods. The country-side was the focal point of these recommendations.

In the long-term plan (Government of India 1946c : 17-34), the smallest service unit was to be a Primary Health Unit, serving a population of

10,000 to 20,000. Some fifteen to twenty-five of the primary units were to be assisted and supervised by a Secondary Health Unit and three to five of these would be placed under the District Health Organisation, serving a population of about three million. A Health Centre was to be established at each district headquarters, with general and special hospitals with a total bed strength of about 2,500. There would also be 650 beds at the secondary health centre and seventy-five at the primary health centre.

The ultimate staffing pattern recommended was on a fairly generous scale. For example, each Primary Health Unit was to have six medical officers and six public health nurses, in addition to the nursing staff for the 75-bed hospital. Over and above, the Committee recommended provision of staff and resources for special services for dealing with the more important diseases widely prevalent in India, such as malaria, tuberculosis, venereal diseases, leprosy and mental disorders.

During the first two five-year periods of the scheme, the emphasis would be on setting up 30-bed hospitals, one for every two Primary Health Units. District Health Organisations were to be established in every district initially to cover five Primary Units and one Secondary Unit each, and gradually increasing, through the initial 10-year period, to twenty-five Primary and two Secondary Units. The setting up of District Health Centres was to be taken up only after this.

To achieve active participation of the people, the plan recommended setting up of Village Health Committees of five to seven voluntary workers who, after training would help promote specific lines of health activity (Government of India 1946c : 14).

On the question of training physicians, the Bhole Committee was of the view (Government of India 1946c : 340) that 'on the whole, having regard to the limited resources available for the training of doctors, it would be to the greatest ultimate benefit of the country if these resources were concentrated on the production of only one and that the most highly trained type of doctor, which we have termed the basic doctor'. It was felt by the majority of members that less highly trained doctors would lower the general standard of service to the community and that, under such doctors, the preventive aspects would not be as well served. The limited funds available could, they felt, be used more advantageously to train ancillary personnel to support this basic doctor, rather than on training doctors at a lower level. The discontinuance of the three-year licenciate course for doctors was recommended. A number of members of the Committee dissented from this view and strongly urged the continuance of the medical licenciate system (Government of India 1946c : 349-50).

The Bhole Committee also recommended the setting up by the Central

Government of at least a few high quality, advanced institutions to : (a) bring together all educational facilities of high order for training of the more important types of health personnel; (b) promote the highest type of research in all branches; (c) coordinate training and research; (d) provide advanced post-graduate training in an atmosphere fostering the true scientific outlook and spirit of initiative; (e) inspire high ideals of the profession; and ( f) promote a community outlook. The setting up of the All India Institute of Medical Sciences was a response to this recommendation (Government of India 1946c : 431-37).

The Committee emphasised that in drawing up a health plan certain primary conditions essential for healthful living must, in the first place, be ensured: suitable housing, sanitary surroundings and a safe drinking water supply, elimination of unemployment, a living wage for all workers, improvement in industrial and agricultural production and in means of communication, particularly in the rural areas (Government of India 1946c : 22). This intersectoral approach to health service development required the coordination of all spheres of development activity at both local and higher levels.

The basic principles recommended for the functioning of the health administration entailed giving a wide measure of autonomy to the provinces. To ensure close cooperation between the Centre and provinces, a Central Statutory Board of Health was to be set up consisting of central and provincial ministers of health. One of its important functions would be that of making recommendation to the central government on grants-in-aid to the provinces.

The ministers of health at the central and provincial levels would have ultimate authority over all health services under them and would lay down and enforce minimum standards of health services in sectors not directly under them, e.g., railways, prisons, factories etc. (Government of India 1946c : 21). These ministries would receive advice and guidance from technical experts in planning and maintenance of health service. The principal technical adviser to the Minister of Health would be the Director-General of Health Services. In the provinces there was to be a Director of Health Service assisted by Deputy and Assistant Directors.

A District Health Board was envisaged for each district consisting of the district health officials and representatives of the public, including some elected to it by local bodies from their own ranks. The Board would enjoy considerable autonomy to ensure the influence of public opinion on the formulation and provision of health services, of course within the general policy laid down by the State Health Minister. An officer-in-charge of district health services would be deputed to the Board by the provincial

government. The other staff would be employed by the Board direct (Government of India 1946c : 22).

A District Health Council was also envisaged, with representatives of different medical professions—doctors, dentists, nurses, pharmacists, and so on, analogous to the Provincial Health Councils. Larger municipalities, however, would be governed by their own Acts (Government of India 1946c : 23).

## HEALTH SERVICES SINCE INDEPENDENCE

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AS EARLY as in June 1946, soon after taking office, the Interim Government which was formed before independence, accepted the Bhore Committee recommendations (Borkar 1961 : 12). Enunciating the health policy of India at the First Conference of Provincial Health Ministers held that year, Jawaharlal Nehru, who was the Vice-Chairman of the Interim Government, observed that little attention had been paid in the past to health, which was 'the foundation of all things', that economy in the sphere of health might mean greater expense in the long run, as loss of life and lack of well-being of those who earn and create wealth meant a loss to the nation. Provision of health services to the entire population was adopted as one of the Directive Principles of State Policy of the Constitution of independent India (Basu 1970 : 230-35).

### HEALTH PLANNING

On achieving independence, India embarked upon a planned effort for raising the standard of living of the masses. This approach was a natural development of the approach of the National Planning Committee (NPC) sponsored by the National Congress. Following the example of the NPC Sub-committee on National Health, health planning in independent India was made an integral part of the overall planning for socio-economic development. Conceptually then, Indian planners recognised the need for tackling problems such as unemployment, malnutrition, social justice, housing and environmental sanitation, along with developing integrated health services to cover the entire population.

Health services planning in India had to tackle a number of major problems which were peculiar to a country like India (Banerji 1973b). There was, first, the need for adapting the practice of modern medicine, which

had evolved in the socio-economic setting of the West, to the very different conditions prevailing in India. For this purpose, the 'natural science' essentials had to be separated from the Western 'socio-cultural' overcoating and clothed in a garb that would harmonise with Indian conditions (Banerji 1966). Because of scarcity of resources and the low level of economic development, medical and health care services in India had to be provided at the minimum cost consistent with effectiveness. This in a country with an immense disease-load per unit of population, much higher than that in industrialised countries. The qualitative pattern of disease was also basically different. Medical education in India had to be attuned to training physicians who would be able to contend with massive problems of maternal and child mortality and morbidity, undernutrition and malnutrition, a wide range of communicable diseases, and insanitary and unhealthy environmental conditions, unlike anything to be encountered in advanced countries. A dearth of medical manpower at all levels was also a major problem.

Government's commitment to the provision of basic health services to all within not too long a period necessitated a fundamental shift in the approach to these problems and concurrent radical changes in the approach to medical education, training and research—a change in the basic approach to health service development (Banerji 1973b).

The successive Five Year Plans have embodied the strategy of the government for dealing with the social and economic problems of the country. A 'package' approach has been adopted which involves allocation of resources according to the importance and urgency of problems. Apart from allocations to mainly economic sectors such as food and agriculture, industry, irrigation and power, transport and communication and manpower, this package included investment in social sectors like employment, welfare and development of scheduled castes and scheduled tribes, education, welfare of women and children, housing and slum clearance and community development.

## SOME LANDMARKS

### **'Vertical' Programmes**

As communicable diseases formed the bulk of health problems in India, it was considered best, in the light of limited resources, to tackle them initially, through separate mass campaigns—each one directed against a single major disease. International agencies supported this approach and individual campaigns were launched against malaria, smallpox, tuberculosis, leprosy, filariasis, trachoma and cholera. They were described as

vertical programmes in view of the fact that each of them was run through a single-purpose, country-wide organisation, each with an independent line of command from national down to village level.

These campaigns tended to be highly techno-centric owing to the availability of 'miracle' tools like DDT, BCG and smallpox vaccines, mass X-ray units, and chemotherapeutic drugs like streptomycin, isonicotinic acid hydrazide, hetrazan, dapsone and penicillin. Very heavy allocations of resources were made for them, the objective being, through massive action, to bring the diseases rapidly under control and even eradicate, once and for all, those which could be eradicated (Borkar 1961 : 18-20). In the First and Second Plans, the bulk of the health outlay was on these programmes.

### **Primary Health Centres**

The establishment of the first Primary Health Centres (PHCs) in October 1952 was a major landmark in the development of health services in India (Dutt 1965). These were established as a part of a broader strategy for rural development through what was called the Community Development Programme (CDP). The framework of the CDP was based on the objective of bringing about multifaceted development of rural areas in the fields of agriculture, rural industry, education, social organisation, communication, transport, and so on (Bhattacharya 1970). This was to be accomplished through three major components: (a) extension education, (b) community self-help, and (c) government action. Nutrition, sanitation and water supply were also included within the purview of the CDP.

The PHC, as part of the CDP organisation, signified the putting into practice of the concept of community participation and intersectoral development for health care which had been recognised by the NPC Sub-Committee on National Health and the Bhore Committee even before independence. The PHC in itself embodies an integrated approach to health services development—curative, preventive, promotive. Its major functions are : (1) medical care; (2) control of communicable diseases; (3) promotion of maternal and child health; (4) collection of vital statistics; (5) protection of water supply and promotion of environmental sanitation; (6) conducting school health programmes; and, later, also (7) providing family planning services (Dutt 1965).

It is the PHC, so conceived, that constitutes the backbone of the present health services in India.

### **Social Orientation of Medical Education**

A major step was taken in 1952 to bring about a social reorientation of

education and training of health workers to make them more relevant to conditions prevailing in the country (Banerji 1973b). Upgraded departments of preventive and social medicine were established in medical colleges (Banerji 1973b). These were expected to provide a much wider academic base than that of the conventional course on hygiene and public health, to relate the complex field of community health to the social, cultural and economic context and to provide a social dimension to the practice of various clinical disciplines. The Medical Council of India suitably restructured the content of medical education for serving these objectives. Similar efforts were made regarding the education and training of other categories of health workers.

### **Indigenous Systems of Medicine**

There are three major indigenous systems of medicine : ayurveda—the Hindu system; the unani—the Greek system which was brought to India from West Asia by the Muslims; and the siddha system, which prevails in Tamil Nadu and some other parts of South India. While almost the entire system of health services in India is based on the Western system, and continues to develop on those lines, Indian leaders have always shown sympathy for the Indian systems, and have made modest grants available for conducting research in these systems, for supporting their educational institutions and for providing the services of these systems to the community (Government of India 1974e).

### **Family Planning (Welfare) Programme**

The implications of the rapid growth of India's population were fully understood even in the early fifties. In fact, India was the first country in the world to initiate a state-sponsored programme of family planning.

Right from the start, emphasis was laid on the welfare aspects of family planning. Activities to limit births were conceived in the context of an overall strategy for improving the quality of the life of people. The guidelines laid down stressed the voluntary nature of the programme, the need to provide family planning services at people's doorsteps, and the need to integrate them with medical and public health services, specially with maternal and child health programmes, so as to afford them maximum relevance and effectiveness (Banerji 1980c).

As the problem of rapid growth of population acquired increasing urgency, since the mid-sixties specially, there has been a rapid increase in the allocation of funds for the family planning programme.

## **Water Supply and Sanitation**

Supply of protected water and improvement of the environment have been considered important inputs for improving the health status of the population. Special national programmes for water supply have been launched for this purpose. They have also been part of the Community Development Programme. Earlier, plan allocation for this programme was modest, with over 65 per cent being spent in urban areas. The programme was not given due priority. But from 1974 there has been a sharp increase in the allocation and it has become a 'high priority' programme in the Fifth and Sixth Five Year Plans (Government of India 1981b : 370-79).

## **Nutrition**

In the field of nutrition, following an applied nutrition programme, a mid-day meal programme for children in primary schools, and a supplementary nutrition programme, an extensive integrated child development programme has been in operation since 1975 (Government of India 1981b : 381). Pregnant and lactating mothers and pre-school children are the beneficiaries of this scheme. They are provided a package of services in the form of nutritional supplements, education for pre-school children and non-formal education for mothers and provision of preventive and curative health services. Allocations for this scheme have also gone up very sharply in the Sixth Plan (Government of India 1981b : 381).

## **Minimum Needs Programme**

It was realised in the late sixties that the planned development of the past two decades had not made adequate impact on the needs of the poorest (Government of India 1974b). A strategy was therefore drawn up focused on meeting their minimum needs. This package of Minimum Needs Programme contains important elements from the fields of health, nutrition, environmental improvement and water supply, apart from elementary and adult education, roads and electrification in rural areas and housing for landless labourers (Government of India 1983c : 81).

## **The Multipurpose Workers Scheme**

The conversion of 'unipurpose' workers engaged in delivery of services for a single, specialised health condition into 'multipurpose' workers in 1971 (Government of India 1973a), marks another phase in the development of India's health services. A male and a female multipurpose workers form a team to serve a rural population of about 5000. They form the

channel for providing an integrated package of services : medical care, maternal and child health services, family planning services, control of malaria and other services for communicable diseases, environmental sanitation, collection of vital statistics and health education. The launching of this scheme marked the merger of the vertical mass campaigns into an integrated health care delivery system. This has led to a strengthening of the Primary Health Centres.

### **The Community Health Volunteers (Guides) Scheme**

The entrusting in 1977 of responsibilities for improving the health of a community to a person drawn from it (one volunteer per 1000 population) is another major watershed in the history of health services in India (Government of India 1978a). The idea is to entrust people's health in people's hands. The medical and health establishment was specifically required to promote self-reliance by providing training to representatives chosen by the community and offering them support in the form of referral facilities for conditions which needed sophisticated services. This, in fact, can be seen as implementation of the recommendation made by the NPC Sub-Committee on National Health in 1940.

India's signing of the Alma-Ata Declaration and its subsequent identification with the Asian Charter (World Health Organization 1980) helped only in reinforcing its earlier commitment.

As a follow-up on these commitments, the Government of India has drawn a detailed perspective plan to attain the goal of Health for All by A.D. 2000 (Government of India 1981a).

## **RECENT DEVELOPMENTS IN HEALTH POLICY**

4 April 1979, a Draft National Health Policy (Government of India 1979c) brought together the key ideas that had emerged over the last few decades. Based on the concept of people's health in people's hand, it was essentially a policy of democratisation of the health services, envisaging the moulding of the health system by the people themselves and *not* by the administrators, technocrats and political leaders, as had been the case till then. The two cornerstones of this policy were, (a) encouraging people to cope with their health problems in their own ways, and (b) ensuring that the tools of health technology are placed under the control of the people themselves; in other words, subordinating technology to people instead of subordinating people to a pre-determined, pre-packaged technology generated in consumer societies of affluent industrialised countries and

most enthusiastically inducted into Third World countries by ruling elites. This policy incorporated Ivan Illich's concepts of demystification, deprofessionalisation, decentralisation and decommercialisation of health technology (Illich 1977). The essential innovative elements of the Barefoot Doctor Movement in China during the Cultural Revolution were also embodied in the draft policy.

The document also assumed a refreshingly new approach to medical research :

Health services research is holistic, multidisciplinary in character involving joint participation of bio-medical sciences and social sciences. Such research should be carried out within the health service system and research priorities determined as a result of joint discussion between researchers, administrative decision makers and the public. The whole ethos of such research should be based on discovery of simple, low cost appropriate technology the results of which are applicable under routinised settings.

The formation of a new government after the elections in January 1980 has led to a re-formulation of national health policy. This was discussed and approved by the Seventh Joint Conference of the Central Council of Health and the Central Family Welfare Council in June 1981 (Government of India 1982a). It received endorsement of the Parliament (Lok Sabha) in 1983.

The new Statement on National Health Policy (Government of India 1982a) asserts that its contours have been evolved within a fully integrated planning framework which seeks to provide universal comprehensive primary health care services relevant to the actual needs and priorities of the community at a cost which the people can afford, ensuring that the planning and implementation of various health programmes is through the organised involvement and the participation of the community, adequately utilising the services being rendered by private voluntary organisations active in the health sector.

To put an end to what it calls the existing all-round unsatisfactory situation, the Statement underlines the urgent necessity of restructuring the health services around the following broad approaches :

1. Provision of a well-dispersed network of primary health care services with the organised support of volunteers, auxiliaries, paramedics and adequately trained multipurpose workers.
2. Large-scale transfer of knowledge, simple skills and technologies to Health Volunteers, selected by the communities and enjoying their confidence.

3. Positive efforts to build up individual self-reliance and effective community participation.
4. Back-up support to primary health care through a well worked out referral system.
5. A nation-wide network of sanitary-cum-epidemiological stations to tackle the entire range of poor health conditions.
6. Full utilisation of untapped resources through organised logistical, financial and technical support to voluntary agencies active in the health field.
7. Planned establishment of centres equipped to provide specialist treatment when necessary.
8. Special efforts to offer mental health and medical care and physical and social rehabilitation to the disabled.
9. First priority to be accorded to people living in tribal, hill and backward areas and to populations affected by endemic diseases.

The Statement calls for development of a 'health team approach' to health manpower development. It also recommends phasing out of private practice by medical personnel in government services. It advocates involvement of practitioners of various systems of medicine with the ultimate objective of bringing about a phased integration of the indigenous and modern systems.

It also calls for a planned, time-bound tackling of tasks connected with: (i) malnutrition; (ii) prevention of food adulteration and maintenance of the quality of drugs; (iii) water supply and sanitation; (iv) environmental protection; (v) immunisation; (vi) maternal and child health; (vii) school health; and (viii) occupational health.

The Statement goes on to underline the need for : health education; an adequate health management information system; strengthening the medical industry and development of a state-wide health insurance scheme for mobilising additional resources; health promotion and ensuring that the community shares the cost of the service in keeping with its paying capacity. It calls for a balanced development of basic, clinical and problem-oriented operational research and emphasises the vital importance of intersectoral cooperation between the health and related sectors like drugs and pharmaceuticals, food and agriculture, water supply and drainage, housing, education and social welfare and rural development.

It ends with setting out the goals for health and family welfare programmes for the years 1985, 1990 and 2000. By year 2000, it visualises a fall in infant mortality rate from the present (1982) 125 to below 60; the crude death rate from around 14 to 9; the maternal mortality rate from 4-5 to below 2; life expectancy at birth from 52.6 for males and 51.6 for females to 64 for both the sexes; crude birth rate from around 35 to 21;

and a net reproduction rate from 1.48 to 1.00. It has also set out specific goals for family size, maternal and child health services, including immunisation, and for leprosy, tuberculosis and blindness prevention.

In view of their great importance separate drafts of a National Population Policy (Government of India 1981c)\* and a Medical Education Policy (Government of India 1981d)\* were formulated for consideration of the Central Council of Health and Family Welfare.

The draft Population Policy reiterated a 'strong commitment to the promotion of voluntary acceptance of family planning, for which all sections of public leaders must come to a consensus on the programme adopted, and efforts made to link family planning work with other developmental activities'.

The Draft Medical and Health Education Policy document urged reorienting of medical education to relate it to the health needs of the country; a total review of the existing educational content and training schedules and reintroduction of the internship system with the basic objective of providing meaningful and relevant training in semi-urban and rural settings. It also called for basic research in the traditional systems, together with a planned investigation of ancient literature, fundamental principles, common drugs in use, principles of diet, problems of environmental hygiene and other areas of mutual interest to the competing systems of medicine. The vital importance of refresher training and continuing education of the basic doctor and his health team to ensure universal delivery of primary health care was stressed. A single central mechanism is to be created which will take an overall view of every aspect of medical education and training from the highest to the lowest levels of all systems of medicine, keeping in view the national objective of producing voluntary workers, para-professionals, middle level workers, public health personnel, general specialists and super-specialists in all fields and systems of medicine.

## ANALYSIS AND EVALUATION

The Statement on National Health Policy of the Government of India, contains a very significant analysis of development of health service in the country. It starts with recounting the achievements: eradication of small-pox and reduction in morbidity due to cholera and related diseases and malaria; reduction in the crude mortality rate from 17.4 to 14.8 and increase in the expectation of life at birth from 32.7 to 52; a fairly extensive network of services for providing curative care and a significant increase in manpower resources; and, considerable growth in the production of drugs

\*These two policies have not yet been finalised (September 30, 1985).

and equipment. This is followed by a wide-ranging critique of the existing situation. This critical section is quoted below at some length as it provides a good basis for further analysis of health service development in India (Government of India 1982a):

In spite of such impressive progress (the Statement says), the demographic and health picture of the country still constitutes a cause for serious and urgent concern. The high rate of population growth continued to have an adverse effect on the health of our people and the quality of their lives. The mortality rates for women and children are still distressingly high; almost one third of the total deaths occur among children below the age of 5 years; infant mortality is around 129 per thousand live births. Efforts at raising the nutritional levels of our people have still to bear fruit and the extent and severity of malnutrition continues to be exceptionally high. Communicable and non-communicable diseases have still to be brought under effective control and eradicated. Blindness, Leprosy and T.B. continue to have a high incidence. Only 31 per cent of the rural population has access to potable water supply and 5 per cent enjoys basic sanitation.

High incidence of diarrhoeal diseases and other preventable and infectious diseases, specially amongst infants and children, lack of safe drinking water and poor environmental sanitation, poverty and ignorance are among the major contributory causes of the high incidence of disease and mortality.

This is followed by an analysis of the possible causes of this obviously unsatisfactory state of affairs:

The existing situation has been largely engendered by the almost wholesale adoption of health manpower development policies and establishment of curative centres based on the western models, which are inappropriate and irrelevant to the real needs of our people and the socio-economic conditions obtaining in the country. The hospital-based, disease and cure-oriented approach towards the establishment of medical services has provided benefits to the upper crusts of society, specially those residing in the urban areas. The proliferation of this approach has been at the cost of providing comprehensive primary health care services to the entire population, whether residing in the urban or the rural areas. Furthermore, the continued high emphasis on the curative approach has led to the neglect of the preventive, promotive, public health and rehabilitative aspects of health care. The existing approach, instead of improving awareness and building up self-reliance, has tended to enhance dependency and weaken the community's capacity to cope with its problems.

The prevailing policy in regard to the education and training of medical and health personnel, at various levels, has resulted in the development of a cultural gap between the people and the personnel providing care. The various health programmes have, by and large, failed to involve individuals and families in establishing a self-reliant community. Also, over the years, the planning process has become largely oblivious of the fact that the ultimate goal of achieving a satisfactory health status for all our people cannot be secured without involving the community in the identification of their health needs and priorities as well as in the implementation and management of the various health and related programmes.

Even before the formulation of the National Health Policy, there had been strong criticism of the health services from the Union Ministry of Health and Family Welfare itself (Government of India 1977a), the Planning Commission (Government of India 1981b) and the Indian Council of Social Science Research—Indian Council of Medical Research Study Group on Health For All By 2,000 A.D. (ICSSR—ICMR 1981). These raise a basic issue in the political economy of health services : why does such sustained criticism come from the government itself and from government appointed bodies? And, why is it that, despite such sustained criticism, the government has not come out with a cogent plan of action to rectify the situation?

The developments which culminated in what the Statement has described as 'the almost wholesale adoption of health manpower development policies and establishment of curative centres based on western models' and which has created 'a cultural gap between the people and the personnel providing health care', are consequences of a particular approach to planning and programming and administration of health services.

When India became independent, a native ruling elite took over power from the British. Conforming to what Gunnar Myrdal has called a 'soft state' (Myrdal 1968 : 20), these new rulers made lofty egalitarian pronouncements but depended essentially on the machinery bequeathed to them by the British to ensure that the fruits of independence would fall mainly into the laps of this new ruling elite and that their hold on the government machine would be perpetuated. The new rulers had promised to take active steps to make the benefits of health services available to the masses, particularly to the weaker sections. For this purpose, they had promised a revival and strengthening of the indigenous systems of medicine. In actual practice, however, they continued in the old colonial tradition of giving supremacy to the Western system.

In contrast to the rural health services, the urban health system continued to receive much greater attention. Public funds were made available to establish a number of hospitals, many of which had the latest, sophistica-

ted equipment for providing intensive care, open heart surgery, brain surgery and cancer therapy services on the model of the industrialised countries. The Western industrialised countries also provided a reference frame for institutions for education, training, and research. Personnel from these sophisticated, urban-based institutions have remained heavily dependent their counterparts in the industrialised countries and the latter have actively encouraged such dependence by providing 'technical assistance' in the form of training, consultation and 'cheap' textbooks (Banerji 1979a).

The political leadership and the health administrators sought to secure an aura of social legitimacy for their actions by pointing to some not very relevant social, cultural, and psychological issues raised by social scientists. Value-laden issues such as modernisation versus traditionalism and urban culture versus traditional folk culture were used to justify the urban and privilege-based class orientation of the health services in India. It was claimed that the backward, superstition-ridden, uneducated villagers first have to be educated by a corps of 'well-trained' health educators from the cities on the virtues of 'modern' health services, which carry with them all the trappings of dependence promotion and profit orientation (Banerji 1979a).

Social and political considerations thus have had a major impact on health service development. As has been repeatedly pointed out by Myrdal, the national political leaders in India were all members of the privileged upper class. Their new positions of responsibility and power rapidly invested them with still greater privileges. Many who had borne heavy burdens or undergone personal sacrifice in the independence struggle saw in their own advancement a symbol of the national political revolution. Also, as politics became increasingly concerned with practical issues and the pressure of vested interests on them grew stronger, a new type of politician with few ideological inhibitions about working for special interests invaded the political scene (Myrdal 1968 : 291).

While these politicians felt compelled to commit themselves firmly to building an egalitarian society in their pronouncements, and they espoused such values as right to work, to health, to special care for the weaker sections of the community and to free and compulsory education for all children up to the age of fourteen, they were not prepared to effect the social, political and administrative changes necessary for attaining such goals. They persuaded themselves that the values of a highly privileged class, which most of them had inherited from the colonial era, would not come in the way of effecting a social and economic revolution in the country. Similarly, they also believed that they could usher in the revolution without changing the structure and function of a bureaucracy which is thoroughly soaked in colonial traditions (Banerji 1975b).

Alienation of these national political leaders from the masses, their

westernised values, their lack of competence, their reluctance to come to grips with urgent social problems, along with pressure from certain powerful vested interests, both from within the country and from abroad, all combined to induce the leaders to depend heavily on foreign agencies for 'technical' and monetary assistance. The appeal of the Western conceptual approach draws further strength from the fact that it is well fitted to rationalisation of opportunistic interests in the westernised elite of developing countries (Myrdal 1968 : 291).

As pointed out in Chapter 2, the colonial character of the health service profoundly influenced almost all aspects of medical education in India, including the institutions, the course content and, perhaps most important, the value system and social outlook of Indian physicians. The first medical college in India was established in 1835. It was quite natural that British teachers would have nurtured such institutions in their infancy. However, along with the 'scientific core' of medical sciences—a most welcome diffusion of cultural innovations from the Western world—there came certain political, social and cultural overcoatings that were definitely against India's best interests.

An education in these medical institutions was made available mostly to students who belonged to the society's privileged upper class. Furthermore, the Medical Council of India accepted the British norms of medical education in order to gain recognition of Indian medical degrees from the British Medical Council. This enabled some physicians, who were the select among the select, to go to Great Britain for higher medical education. Acquiring fellowships or memberships of the various Royal Colleges was generally considered to be the pinnacle of achievement in these physicians' respective fields (Banerji 1973b).

These four factors—(1) the colonial value system of the British rulers; (2) the class orientation of Indian physicians; (3) their enculturation in British-modelled Indian medical colleges; and (4) a more thorough and more extensive indoctrination of the future key leaders of the Indian medical professions in the Royal Colleges—provided a very congenial setting for the creation of what Lord Macaulay had visualised as 'Brown Englishmen'. These physicians, who had been indoctrinated in Western values, acquired dominant leadership positions in all facets of health services in India. This arrangement proved convenient to both the colonialists and the privileged few among Indians. It ensured the Indian physicians power, prestige, status and money at home, while their mentors from foreign countries were assured of a considerable influence on them because the top leadership of the medical profession in India remained heavily dependent on these mentors (Banerji 1979a).

The personnel of the India Medical Service of the British days were called upon by the Indian leadership to provide initiative in shaping the

proposed new health services system. Political independence also brought to the fore two additional issues that profoundly affected the cadre of the Indian Medical Service. First, the withdrawal of British officers after independence caused a sudden vacuum in the ranks. This came as a wind-fall to a number of not-so-competent officers who were catapulted into positions of key importance when they became senior in the cadre upon the departure of the British. Second, by adhering strictly to seniority rules, when the health services were expanded very rapidly to meet the requirements of the newly formulated health programmes, the administration drew more and more from the relatively small group of people who had entered the services in, say, 1935-1945 to meet the rapidly increasing manpower needs for key posts. As a result, a large number of key health service posts were filled by persons who, even by colonial standards, were not considered to be bright (Banerji 1975b).

Such a massive domination of the new health organisation by men who were trained in the colonial traditions and whose claims to a number of vital posts in development administration were based merely on their being senior in the cadre, led to a virtual glorification of mediocrity, with all its consequences. What was even worse, such a setting was inimical to the growth and development of the younger generation of workers. Often these young men had to pay heavy penalties if they happened to show, on their own, enterprise, initiative and imagination in their work. Conformism, which often earned good rewards, ensured the perpetuation of mediocrity within the organisation.

Thus, a noteworthy feature of health service development in India is that, throughout the past century and a half, it has been influenced by two powerful forces which had been pulling it in different directions: the colonial approach, which continues to be nurtured by the privileged classes after independence, pulling in one direction, and the anti-colonial struggle, which later on took the form of a struggle for democratisation, pulling in another direction.

That, even thirty-five years after becoming independent, the existing manpower development policies and health institutions still remain predominantly curative in character and are based on the Western models which are inappropriate and irrelevant to the needs of the people and which provide benefits to the upper crusts of society residing in urban areas, shows how relevant has been the colonial pattern of health services to the leadership of independent India. But the fact that a government policy document should have so roundly disapproved the policies followed by governments of the same political party in the past thirty-five years, and that it now calls for rectification of those defects by 'involving the community in the identification of their health needs and priorities as well as in the implementation and management of health and related programmes',

also shows that there are forces of democratisation within the country which have impelled the very same leadership to promise a better deal to the people for the future.

The interplay of these two types of forces have had three important consequences for health service development in India:

1. There has been a very rapid increase in the allocation of resources for health service development since independence. India has developed an extensive network of institutions to cover a population of over 700 million, three-fourths of which reside in some 560,000 villages. These institutions include village level health workers and male and female multipurpose workers in sub-centres of primary health centres, at one extreme, to the medical care specialists and super-specialists providing very sophisticated medical services at teaching hospitals, at the other. On a similar scale, it has also established institutions for education and training of the personnel needed for the health services. The health services are also supported by a large number of institutions for research, planning, programming and evaluation.
2. There has been a sustained and strong policy commitment to meet the health services needs of the underprivileged and the underserved.
3. Notwithstanding the strong orientation of health services to serve the 'upper crusts' living in urban areas through institutions which are mostly curative in nature, over the years, there has been a considerable increase in the trickling down of some curative and preventive services to the underprivileged sections living in both rural and urban areas.

## ADMINISTRATION AND ORGANISATION OF HEALTH SERVICES

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### POLITICAL AND SOCIO-ECONOMIC SETTING

INDIA has a parliamentary system of government with a President, a Council of Ministers, a House of the People (Lok Sabha) and a House of the States (Rajya Sabha). Its Constitution embodies certain fundamental rights which are enforceable in the courts of law of the country. The Constitution also incorporates Directive Principles of State Policy which represent the fundamental guidelines for governance of the country (Basu 1970 : 230-35).

76.3 per cent of the population of the country live in rural areas and an almost equal number depend on land for a living. Going by most economic indicators, India is one of the poorest countries of the world. At the same time, it is one of the most developed in several fields of technology and industry. Socially, hierarchy of different kinds survives in varying degrees in villages and cities. The caste system has been considerably eroded over time, though it will take many more years to disappear completely. At the same time class differentiation is increasing with industrialisation and increasing pressure on land. Officially, certain backward castes as well as the tribal population are recorded and categorised in the Constitution as Scheduled Castes and Scheduled Tribes for channelling special developmental efforts (Government of India 1982g : 6).

Road and rail transport reach virtually every part of the country. Air communications link key cities in every state and region. Radio and posts and telegraphic communications are widespread and television services are being rapidly expanded.

Administratively, the country is divided into 22 States and 9 Union Territories (UT). Further division is into 408 Districts (most of them

having a population between 1.25 to 1.5 million), which are demarcated into smaller Tehsils or Taluks for revenue purposes and more than 5,000 Community Development Blocks (each with a population of 80,000 to 100,000) for development planning and implementation. There are 3,301 towns and 575,936 villages. Of the states, seven have small populations, accounting in all for 2.2 per cent of the total. More than two-thirds of the population of the nine union territories is accounted for by Delhi, the national capital, where 92.9 per cent of the population is urban (Government of India 1982g).

Each of the states and union territories is represented in the Parliament. Every state has a legislative assembly with directly elected representatives of the people. Those belonging to the scheduled castes and scheduled tribes are given special representations in virtually all elected bodies as weaker sections of the society. Union and state powers in legislation are quite clearly demarcated in the Constitution. Each union territory is administered by the President through a Lieutenant Governor appointed by him (Government of India 1982g : 23).

The administration of urban areas vests in elected municipal institutions. In rural areas, a three-tier system of Panchayati Raj operates at village, block and district levels. The members are elected directly from among villagers. By 1983 there were 22,593 Village Panchayats, covering almost the entire rural population. There were also 4,478 Panchayat Samities at the block level and 252 Zilla Parishads at the district level (Government of India 1982g : 33).

## **HEALTH SECTOR IN DEVELOPMENT PLANNING**

The drive towards socio-economic development of the country is largely based on five year plans drawn up periodically. Since 1950, six five year plans and several annual plans have been drawn up. The practice of drawing up annual plans for individual years, as part of each five year plan, has been followed since the mid-fifties.

The First Five Year Plan covered the period 1951-56, the Second Plan 1956-61. The Third Plan ended in 1966 and was followed by three Annual Plans from 1966 to 1969, with the Fourth Plan beginning in 1969. The Fifth Plan covered the period 1974 to 1979; subsequently there was an Annual Plan for 1979-80. The Sixth Plan covered 1980-85; the Seventh Plan was launched in April, 1985.

Plans have been directed towards the broad objective of achieving a 'socialistic pattern of society', the basic determinant being greater equalisation of income and wealth and reduction of private profit. Simultaneous strengthening of the infrastructure of agriculture and industry and raising

of the mass of the people above the poverty line are adjuncts of this policy.

Outlays and expenditure have been increasing in every sphere with every successive plan, as seen from Table 4.1.

**TABLE 4.1 : Pattern of Investment on Health, Family Welfare and Water Supply etc. (Plan Outlays) in Different Plan Periods in Public Sector—Centre, States and UTs**

*Rs. in 00,00,000 (crores)*

Period	Total Plan Investment outlay (all heads of development)	Health	Family Welfare	Sub-total	Water Supply and Sanitation
1. First Plan (1951-56) actuals	1960.0 (100)	65.2 (3.3)	0.1 (-)	65.3 (3.3)	11.0 (0.56)
2. Second Plan (1956-61) actuals	4672.0 (100)	140.8 (3.0)	2.2 (0.1)	143.0 (3.1)	74.0 (1.58)
3. Third Plan (1961-66) actuals	8576.5 (100)	225.9 (2.6)	24.9 (0.3)	250.8 (2.9)	110.2 (1.3)
4. Annual Plans (1966-69) actuals	6625.4 (100)	140.2 (2.1)	70.4 (1.1)	210.6 (3.2)	102.7 (1.6)
5. Fourth Plan (1969-74) actuals	15778.8 (100)	335.5 (2.1)	278.0 (1.8)	613.5 (3.9)	548.0* (3.5)
6. Fifth Plan (1974-79) actuals	39426.2 (100)	760.8 (1.9)	491.8 (1.3)	1252.6 (3.2)	1107.5 (2.8)
7. 1979-80 actuals	12176.5 (100)	223.1 (1.8)	118.5 (1.0)	341.5 (2.8)	395.3 (3.3)
8. Sixth Plan (1980-85) Outlay	97500.0 (100)	1821.1 (1.9)	1010.0 (1.0)	2831.1 (2.9)	3922.0 (4.0)
9. 1980-81 (actuals)	14832.4 (100)	269.6 (1.8)	141.9 (1.1)	411.5 (2.9)	524.2 (3.5)
10. 1981-82 Anticipated	18210.9 (100)	346.5 (1.9)	183.9 (1.0)	530.4 (2.9)	661.4 (3.6)
11. 1982-83 Outlay	21081.7 (100)	388.8 (1.8)	245.0 (1.2)	633.8 (3.0)	692.6 (3.3)

Source : (i) Economic Survey 1982-83 and Planning Commission;  
(ii) Sixth Plan, Planning Commission.

\*Including LIC loan assistance which was not reflected in the state Plans.

Table 4.2 shows family welfare, health and total government budgets by plan year to give an indication of the proportion of the total government expenditure which goes to health and family welfare. It shows that since 1974 there has been only a marginal increase in the proportion of expenditure in the field of health and in family planning as percentages of total government expenditure. The only exception being the steep increase in

TABLE 4.2 : Yearwise Family Welfare, Health and Total Government Budget

Rs. in 00,000 (lakhs)

Year	Budget Family Welfare	Health*	Family Planning Expenditure as per cent of Health Expenditure	Health Expendi- ture as per cent of total Expenditure
1974-75	696	6,885	10.11	4.65
1975-76	894	7,961	11.23	4.39
1976-77	1,728	9,927	17.41	4.86
1977-78	970	10,472	9.26	4.67
1978-79	1,104	12,158	9.09	4.70
1979-80	1,303**	14,931**	8.73	5.06
1980-81	1,558†	16,496†	9.44	5.06

Source : Department of Economic Affairs, Ministry of Finance.

\*Includes medical, public health, family planning, sanitation and water supply.

\*\*These are provisional figures subject to revision a year later.

†Allocated.

expenditure on family welfare for the year 1976-77. This was due to the intensified family planning drive during the Emergency.

Table 4.3 gives statewise per capita expenditure on health and family welfare between 1977-78 and 1979-80. As the expenditure is given in current prices, the rise in expenditure in fact is not as much as is indicated by the figures. However, a very significant feature of this table is that it sharply brings into focus the range of variation in the expenditure on health and family welfare in different states. For making comparisons between the states, if the union territories of Arunachal Pradesh, Goa, Daman and Diu, Mizoram and Pondicherry and the states of Sikkim, Manipur, Nagaland, Tripura, Meghalaya, Jammu & Kashmir and Himachal Pradesh, which have smaller populations, are excluded, the contrast in the per capita expenditure among the rest of the states become all the more glaring. While the national average per capita expenditure on health for 1979-80 was Rs. 19.91, the figure was Rs. 9.61, Rs. 11.73, Rs. 17.05 for Bihar, Uttar Pradesh, and Madhya Pradesh, respectively. At the other extreme, it was Rs. 25.69, Rs. 25.34 and Rs. 25.20 for Punjab, Maharashtra and Kerala, respectively. Similar disparities can also be observed in the data for 1977-78 and 1978-79.

Table 4.4 shows how the outlay for the health sector was distributed for the Sixth Plan and its distribution is compared with the outlay for the Fifth Plan (1974-79). The significant feature of this outlay for the Sixth Plan is that there has been a very sharp increase in the outlay for the Minimum Needs Programmes and for rural health, both in terms of centrally sponsored schemes and in terms of other schemes. There is also a

**TABLE 4.3 : Per Capita (Public Sector) Expenditure on Health (Medical and Public Health) and Family Welfare During the Years 1977-78 to 1979-80**

Sl. No.	States/U.Ts.	1977-78		1978-79		1979-80	
		Health	F.W.	Health	F.W.	Health	F.W.
1.	Andhra Pradesh	13.49	1.71	16.07	1.90	17.26	1.98
2.	Assam including Mizoram	12.24	0.93	14.28	1.01	14.08	1.02
3.	Bihar	6.94	0.93	8.86	1.26	9.61	1.06
4.	Gujarat	17.06	2.28	20.00	2.65	21.57	2.93
5.	Haryana	18.91	1.56	25.29	1.57	23.17	1.84
6.	Himachal Pradesh	30.41	2.98	51.40	2.94	61.93	3.17
7.	Jammu and Kashmir	38.57	1.12	53.20	1.61	66.82	1.66
8.	Karnataka	12.64	2.08	14.50	2.28	15.43	2.25
9.	Kerala	19.26	1.77	21.20	1.86	25.20	2.23
10.	Madhya Pradesh	10.76	1.37	11.61	1.55	17.05	1.74
11.	Maharashtra	16.88	1.13	21.41	1.55	25.34	2.06
12.	Manipur	22.98	1.51	35.73	2.67	73.86	3.65
13.	Meghalaya	39.98	1.85	51.49	1.78	81.22	2.93
14.	Nagaland	119.98	0.26	171.35	0.58	151.54	1.62
15.	Orissa	11.31	1.78	13.65	1.90	16.52	1.99
16.	Punjab	20.94	1.42	23.80	1.45	25.69	1.58
17.	Rajasthan	19.69	1.24	23.21	1.39	19.74	1.58
18.	Sikkim	68.50	1.54	82.10	2.72	71.42	3.69
19.	Tamil Nadu	14.73	1.52	16.72	1.78	16.83	1.63
20.	Tripura	21.21	0.76	25.86	0.90	30.32	1.00
21.	Uttar Pradesh	8.11	1.33	9.62	1.40	11.73	1.43
22.	West Bengal	16.54	0.75	17.73	1.01	20.12	1.42
	All India	15.05	1.51	17.29	1.79	19.91	1.84

*Source* : Combined Finance and Revenue Accounts of the Union and State Governments in India for the years 1976-77, 1977-78 and 1978-79 C.A.G. India.

virtual doubling in the allocation for communicable diseases, which mainly focuses on the rural population. If comparison is made in terms of fixed prices and if the rural elements in the expenditure on items 3, 4, 5 and 6 are excluded, it might well turn out that the allocation for hospitals and dispensaries and medical education and research for the Sixth Plan is much less than was the case with the Fifth Plan. This is a very significant development.

Table 4.5 gives the plan outlay break-up for the health sector for the year 1980-81, 1981-82 and 1982-83.

The First Plan showed an increase of 18 per cent in the national income as against the targeted achievement of 12 per cent. The Second Plan

TABLE 4.4 : Sixth Plan Outlays - Health Sector

Rs. in 00,00,000 (crore)

Sl. No.	Programme	1974-79			1980-85		
		State/ U.Ts.	Centre	Total	State/ U.Ts.	Centre	Total
1.	Minimum Needs						
	Programmes for Rural Health						
	(a) Centrally Sponsored Schemes	—	—	—	102.62	168.50	271.12
	(b) Other schemes	120.30	—	120.30	305.84	—	305.84
	Total	120.30	—	120.30	408.46	168.50	576.96
2.	Control of Communicable Diseases	—	268.17	268.17	235.00*	289.00	524.00
3.	Hospitals and Dispensaries	225.53	67.66	293.19	576.59	7.50	720.09
4.	Medical Education and Research						
5.	Traditional Systems of Medicine and Homoeopathy						
6.	Others						
Total		345.83	335.83	681.66	1220.05	*601.00	1821.05

Source : Sixth Five Year Plan, 1980-85, Planning Commission.

\*This include Rs. 195.30 crores towards 50 per cent States share for Malaria Control Programme.

TABLE 4.5 : Health Sector Plan Outlay—1980-81, 1981-82 and 1982-83

Rs. in 00,000 (lakhs)

I. Central Schemes	1980-81	1981-82	1982-83
I. Rural Health	—	200.00	100.00
II. Hospitals and Dispensaries	607.29	959.42	1200.00
III. Medical Education and Research	1002.15	1234.20	1695.00
IV. Training Programme	1.73	2.50	5.00
V. Control/Eradication of Communicable Diseases	78.64	188.54	220.00
VI. Indian Systems of Medicine and Homoeopathy	360.77	482.27	500.00
VII. Other Programmes	151.11	174.59	175.00
Total Central Schemes	2201.69	3241.52	3895.00
II. Total Centrally Sponsored Schemes	8798.31	9258.48	8105.00
III. Plan Outlay—States	18958.00	20915.00	24340.00
IV. Plan Outlay—U.Ts.	1722.06	2245.00	2543.00
Total Health Sector Outlay	31680.06	35660.00	38883.00

Source : Planning Commission.

increase was 20 per cent in the first four years and a drop of 5.7 per cent in the fifth year. The Annual Plans of 1966-67 to 1968-69 did not show much increase. The later part of the Fourth Plan also showed a slackening in growth rate after the initial rise. The Fifth Plan growth was a low 5.2 per cent, though it was higher than the expected 4.4 per cent (Government of India 1982g : 93-98).

Table 4.6 shows achievements in the health sector during different plan periods.

## **ORGANISATION OF HEALTH SERVICES AT THE UNION LEVEL**

The administration of the Union Ministry of Health and Family Welfare is headed by a Secretary, who is a generalist administrator, usually belonging to the Indian Administrative Service (IAS). Earlier, he/she might have had a variety of assignments within state and the Union governments. Getting posted as the Secretary to the Ministry of Health and Family Welfare is an episode in the long career of an IAS officer. A generalist administrator is placed at the top of the ministry because, even though he is not trained in technical aspects of health administration, it is felt that he possesses the political and social skills necessary to assist the minister in discharging his functions in the cabinet and in Parliament as the political head of the ministry (Khosla 1968). For this purpose the secretary has available to him a variety of officers with specialised technical competence (specialists), headed by the Director-General (DG) of Health Services. The office of the DG—the Directorate-General of Health Services (DGHS)—is called an ‘attached office’ of the ministry. The secretariat is responsible for the key functions of policy formulation, planning, personnel and financial administration. As it represents the view of the Union Government, the secretariat also deals with its counterpart in the state governments, various health institutions affiliated to the ministry and international agencies and foreign governments and institutions.

There are two departments in the Ministry of Health and Family Welfare, the Department of Health and the Department of Family Welfare (Government of India 1984a : Ann. II). Each of these departments is headed by an Additional Secretary, who is assisted by other generalist administrators occupying different positions in the hierarchy—Joint Secretaries, Directors, Deputy Secretaries, Under Secretaries, and so on. The Department of Family Welfare is distinguished by the fact that, unlike the Department of Health, it does not have a separate office of specialist officers trained in various fields of family welfare. The specialists are placed under the direct administrative control of the Additional Secretary, who is also designated as the Commissioner of Family Welfare. In the hierarchy, top specialists dealing with such areas as nursing, maternal and child

**TABLE 4.6 : Achievement in Different Plan Periods (Medical and Public Health)**

Plan period (Position at the end of)	Achievement in Medical and Public Health (Progressive Total)					
	Beds (Plan)	Medical Colleges		Dental Colleges		Nurses*
		No.	Annual Admission	No.	Annual Admission	
1st Plan (1951-56)	1,25,000	42	3,500	7	231	18,500
2nd Plan (1956-61)	1,86,000	57	5,800	10	281	27,000
3rd Plan (1961-66)	2,40,000	87	10,520	13	506	45,000
4th Plan (1969-74)	2,82,000	105	12,500	15	800	88,000
5th Plan (1974-78)	3,14,000	106	13,000	15	800	1,08,000
1978-79	3,22,000	106	13,000	15	800	1,13,000
1979-80						
(anticipated achievement)	N.A.	106	13,000	15	800	1,17,000
						77,400

Source : Bureau of Planning, D.G.H.S. and Planning Commission.

N.A. Not available.

\*Estimated economically active number. Doctors in indigenous systems of medicine, homoeopathy etc. excluded.

health services, family planning services, rural health services, programme appraisal, area projects, sale of condoms, evaluation and mass communication, are placed under Joint Secretaries.

The organisation of the Union Ministry of Health and Family Welfare thus has four characteristic features:

1. The IAS officers who occupy positions of leadership themselves do not have technical expertise in various aspects of the health services.
2. Their placement in the ministry is episodic and this makes it difficult to hold them accountable for their decisions.
3. The officers in the ministry wield considerable power as they deal with such key areas as personnel and financial management and policy formulation and planning.
4. Even in hierarchical terms, the Director-General of Health Services and his officers in the 'attached office' are placed in positions which are lower than their counterparts in the ministry. The situation is even more unfavourable to the technical personnel in the Department of Family Welfare as they are located within the department itself and the top technical officers have three tiers of generalist administrators above them—a joint secretary, the Additional Secretary-cum-Commissioner Family Welfare and the Secretary Ministry of Health and Family Welfare.

It may be recalled that, right from the days of the freedom struggle, there has been a strong demand that a single highly qualified health professional should head the entire health services organisation at each level, both in the Union and state governments (Roy 1982a; Grant 1993). This view was endorsed by the Sokhey Committee (National Planning Committee 1948) and the Bhore Committee (Government of India 1946) and many other committees which were set up from time to time to examine health services in the country (e. g. Government of India 1962; Government of India 1963; Government of India 1968c; Government of India 1981a). What was aimed at was a 'unified line of command'. It is the Union Government which first violated this laudable principle of integration of health services when a separate Department of Family Planning (Welfare) came into being in 1965 in the face of mounting pressure to control the rapid growth of population (Programme Evaluation Organization 1970). This department was headed by a separate secretary at the initial stage under the overall control of the Secretary, Union Ministry of Health and Family Welfare. The Secretary of the Department of Family Planning had under him directly a generalist administrator as the Joint Secretary responsible for policy planning and administration and a technical person, designated as the Commissioner, Family Planning, who headed the technical wing which

also covered maternal and child welfare and nursing. This technical wing worked quite independently of the office of the Director General of Health Services. The situation was further complicated when, later on, the generalist Joint Secretary also took over the responsibility of the Commissioner and continued to carry this extra responsibility, despite being promoted to the post of Additional Secretary. This situation prevails even now (1985), after the then Additional Secretary had left the Health Ministry to become the secretary of another ministry (Government of India 1984a : Ann. II).

As the Union Government is also associated with the maintenance and development of a very wide range of community health activities in the states, even within the circumscribed area of tendering advice to the ministry on issues requiring the expertise of specialists, the office of the Director-General of Health Services is required to have specialists from a large number of fields. Medical education and other aspects of health manpower development, hospitals and other medical care activities, health planning, health intelligence, health education, rural health services, national programmes for control or eradication of various communicable diseases, nutrition, drugs control and administration of medical store depots are the major areas where the Directorate-General of Health Services (DGHS) 'assists' its counterparts in the states in the performance of their (i.e. the state health directorates') duties (Government of India 1984a : Ann. IV). Besides, the DGHS has the direct responsibilities for dealing with the health areas earmarked for the Union Government in the Constitution, e.g. international health, food quarantine, research, administration of Union Government health agencies and institutions, running of the health services in the union territories, etc.

The Director-General of Health Services is thus required to provide leadership to a very elaborate team consisting of a large variety of health specialists. He also has the responsibility of advising the Ministry on a wide range of technical matters with a view to persuading the state governments to fall in line with the plans and programmes formulated by the Union Government.

The Director-General is assisted by two Additional Directors General and a member of Deputy Directors General (DDG) to provide leadership to the team (Government of India 1984a : Ann. IV). Many major programmes, like the National Malarial Eradication Programme, medical education and medical care services, the Central Government Health Scheme and rural health services are headed by DDG. There are three bureaux – the Bureau of Health Planning, the Central Bureau of Health Intelligence, and the Central Health Education Bureau – underlining the importance of these three areas in the Directorate-General of Health Services. There are also officers, usually at the level of an Assistant Directors General, for tuberculosis, leprosy, the expanded programme on immunization, control of

blindness, filariasis, sexually transmitted diseases, goitre, nutrition, blood transfusion, disaster relief, drug control and medical stores. The All India Institute of Hygiene and Public Health, Calcutta, the National Institute of Communicable Diseases, New Delhi, the Jawaharlal Nehru Institute of Post-Graduate Medical Education and Research, Pondicherry, the National Tuberculosis Institute, Bangalore, and several other national institutes dealing with important health problems are also under the DGHS. The DG also occupies a key position in the governing bodies of autonomous institutions which are fully funded by the Ministry of Health and Family Welfare, such as the Indian Council of Medical Research, the National Institute of Health and Family Welfare, All India Institute of Medical Sciences, the Post-Graduate Institute of Medical Education and Research, Chandigarh, the statutory councils for education of physicians, nurses and dentists, and the four research councils on the other systems of medicine. X

However, during the past thirty-five years, there has been a significant erosion in the authority of the Director General of Health Services. The family planning and maternal and child health services were shifted from the DGHS to the Department of Family Planning in 1960 (Programme Evaluation Organization 1970). This was followed by the transfer of the important division of public health engineering and municipal administration to the Ministry of Works and Housing. The Nutrition Unit within the DGHS became essentially a technical advisory group since the responsibility for formulation of policy, planning, programming, implementation and monitoring and evaluation of the massive nutrition programmes was given to the Department of Social Welfare (Government of India 1978c). Administration of vitamin A to children as prophylaxis against nutritional blindness and administration of food supplements, iron and folic acid to pregnant mothers has now come under the purview of the Department of Family Welfare. The administration of the indigenous systems of medicine and homoeopathy has also been shifted from the DGHS and placed directly under the Department of Health (Government of India 1984a : Ann. II).

This erosion of the authority of the DG coincided with the phasing out of the all-India cadre of the Indian Medical Service (IMS) of the pre-independence era. As in the case of the members of the Indian Civil Service (ICS) for generalist administrators, members of the IMS occupied key positions in health administration, both at the provincial and central levels. The post of DG usually went to the highest ranking officer of the IMS. The incumbents of the post could therefore hold their own against the generalist administrators of the Ministry of Health, who belonged to the ICS. The IMS officers had rich administrative experience in managing large and complex health organisations before they came to occupy the post of DG. This gave them an understanding of health problems at the community level and of ways of tackling them.

While both the ICS and the IMS came under strong criticism from the leadership of national movement because of their association with the colonial rulers (Roy 1982a; Roy 1982b; National Planning Committee 1948), it so happened that the IMS did not survive independence. While the ICS was succeeded by the equally exclusive IAS, there was no corresponding substitute for the IMS and it was phased out. Belated efforts were made to rectify the situation by proposing an all-India cadre to be called the Indian Medical and Health Services, but it could not take shape as it failed to receive the concurrence of all the states of the Union. Failing to setup an all-India cadre, the Government of India brought together its own officers from the fields of medical care, public health and medical education to form a new cadre of its own, called the Central Health Service (CHS).

While, on the face of it, creation of a single cadre appears to be a sound practice in health administration, it was not realised adequately at that time that the creation of a single cadre of personnel in an organisation which lacks the vital base of executive positions in the health services in the states would create serious anomalies. Thus, unlike the situation prevailing during the pre-independence days, the DGHS could not get officers who had grown in the service while acquiring experience through managing community health services and developing epidemiological perspectives. This anomaly in the organisational structure also led to a disproportionately large representation of physicians from teaching institutions at the higher levels of the cadre. As a result, frequently, seniority in the CHS cadre has enabled persons to occupy key positions within the DGHS for which they had virtually no experience. Thus, at a time when the country needed managerial physicians who would have much greater competence than those who belonged to the IMS, those occupying key positions in the DGHS often fell very far short of what was required of them. The vacuum created by the phasing out of the IMS and the consequent decline in the competence, power and prestige of the CHS officers offered an opportunity to generalist officers to exert their influence on technical issues concerning which they were obviously not competent, thus leading to erosion of the authority of the DG.

## **ORGANIZATION OF HEALTH SERVICES AT THE STATE LEVEL**

The phasing out of the IMS also had a major impact on the administration of health services in the states. This had led to considerable erosion in the competence of health administrators at a time when they were required to show much greater initiative, enterprise and administrative vision in the

face of the rising expectations and aspirations of the people. In the first place, health being essentially a state subject, the administrators were expected to develop their own pattern of health services to suit the conditions prevailing in individual states. In the absence of such action, the state authorities had to fall back on the 'standard pattern' handed down to them by the Union Government.

Development of health services in rural areas through the national programmes, primary health centres, dispensaries and taluk and district level hospitals called for fundamental changes in the structure of the organisation and in administrative practices. Assigning the overriding priority to the family planning programme posed yet another type of administrative challenge. Finally, there was also the administrative challenge involved in the expansion of the institutions and services (like medical colleges and big hospitals in cities) which had already existed before independence.

As in the case of the DGHS, at the state level also, the Director of Health Services provides leadership to his team with assistance from Additional Directors and Joint Directors (Mishra *et al.* 1982; Government of India, 1969b). Because of the priority assigned to family planning, a well-staffed Family Planning Bureau, usually headed by an Additional Director, is located in each state directorate to oversee the implementation of the programme. Deans of the state-financed medical colleges and superintendents of big hospitals also report to the director. He also has officers of the rank of Deputy Director and Assistant Director to assist him by providing staff support in fields like malaria, tuberculosis, leprosy, blindness prevention, extended programme on immunisation, hospitals and medical care, nursing, health education, health intelligence, drugs control, prevention of food adulteration, medical stores, laboratory services and vaccine production and transport. A senior officer in the directorate performs the line function of overseeing the work of district health administration which runs all levels of health services in rural areas. In big states, which have a large number of districts, there is provision for a Divisional Health Officer who supervises the work of 3-5 districts.

Health departments of municipalities are responsible for providing preventive and curative health services to urban populations. The state directorate of health services has the responsibility of ensuring that the municipal health departments perform their functions properly. In most of the municipalities, the health officer belongs to the state cadre of health services. There are also several state financed hospitals and health institutions which supplement the work of municipalities.

The office of the Chief Medical Officer of a district of a state serves as the nerve centre to integrate all state financed health activities in the rural areas, which contain more than three-fourths of the population of the

country (Mishra *et al.* 1982). With the implementation of the Multipurpose Workers Scheme (Government of India 1973a) and the Community Health Guides/Workers Scheme (Government of India 1978a), a Health Guide (HG) has the responsibility of undertaking many health activities at the village level on behalf of a population of 1,000 persons and a male and female Multipurpose Worker (MPW) act as conduits for support to the HGs and making available a variety of health and family welfare services for a population of 5,000 to 10,000. A Sub-centre of the Primary Health Centre (PHC) forms the base of activities of these two MPWs. Some 8-10 of these sub-centres receive support from a PHC (Dutt 1965; Government of India 1973a). The Medical Officer incharge of a PHC has the overall responsibility of providing integrated health services to the population assigned to it (80,000 to 100,000). He is required to practise what has been called 'community-side' medicine (McGavarn 1953), which requires talents of a manager as well as those of an epidemiologist. In other words, he has to be a 'managerial physician' (Leavell 1968). He has the assistance of one or two additional medical officers, male and female Health Assistants [HA (M) and HA (F)], a Sanitary Inspector (SI) and a Block Extension Educator (BEE) to provide line and staff support to the MPWs and HGs. He also makes available medical care services to the population through the out-patients clinic and a small hospital located at the PHC.

The entire population of a district is covered by 8-12 PHCs and the Chief Medical Officer (CMO) of the district is assigned the responsibility of providing line and staff support to the PHCs. Besides the PHC, the CMO also supervises the work of a number of dispensaries, belonging to both Western (about 30-40) and indigenous systems of medicine (about 8-12). He has also under his charge smaller hospitals at tahsil/taluk level and a central hospital at the headquarters (Mishra *et al.* 1982; Government of India 1969b; Tewari 1971). The CMO is assisted by district level line and staff personnel—a Superintendent for the district hospital, a District Health Officer and a District Family Planning Officer to provide line supervision of the various health institutions in the district and specialists in fields like malaria, tuberculosis, leprosy, school health, nursing, environmental sanitation, drugs control and health intelligence, to give staff support.

As in the case of the Union Ministry of Health and Family Welfare, at the state level too, shortcomings among technical personnel and the dominating attitude of the generalist administrators has put considerable stresses and strains on the health organisation. In some states, this has led to a division of the office of the director of health services into two or three offices—those of public health, medical care, and medical education.



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In some states, these forces have succeeded in bifurcating the functions of the Chief Medical Officer into that of a District Medical Officer, with charge of the district hospital and other hospitals and dispensaries in the district, and that of a District Health Officer who takes charge of the rest of health and family planning activities (Tewari *et al.* 1971).

Here then is the central issue in the administration and organisation of health and family welfare services in the country. Popular pressure, leading to a political commitment to making health services accessible to the entire population and to taking energetic steps to bring the rapid growth of the population under control, has inexorably led to the formation of a literally gigantic network of health and family welfare services which now reaches out to virtually each of the over 100 million households, located in over 570,000 villages, towns and cities of the country. This has posed a major challenge to health administrators. Increase in the domination of generalist administrators, liquidation of the IMS and failure to substitute it with an alternative cadre, and formation of several insular health services cadres at the Union and state levels which are not conducive to formation of a cadre of managerial physicians to adequately shoulder the new types of responsibilities, are the major obstacles that have come in the way of meeting this challenge.

## THE INSTITUTIONAL FRAMEWORK

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A HEALTH service system consists of an organisational structure which sustains a network of institutions for providing services, training, education research and evaluation : which enables various types of personnel to make certain forms of medical technology available and accessible to a population. There are thus three major components of this system : the health institutions; a package of technology, and manpower for its delivery; and the organisational structure. The institutions forming the health service system of the country are discussed in this chapter. Choice of technology and manpower resources are discussed in the next chapter. Parts of these three components have been brought together to discuss the various health and family planning programmes of this system in some details in Parts Two, Three and Four of this book.

Through the years, India has built an extensive network of institutions of various kinds—institutions for providing curative, preventive, promotive and rehabilitative services of various kinds; institutions for education and training of different categories of personnel needed for running various health institutions; institutions for generation of knowledge through basic research; and institutions for formulation of policies, plans and programmes for health and family welfare and for their evaluation (Directorate-General of Health Services 1980; Government of India 1983c).

Institutions for research, evaluation, education and training for community health and health administration are described first, because these have determined the basic approach followed in health service development. This is followed by an account of the institutions which are concerned with manpower requirements. These cover a very wide range of personnel, extending from community health volunteers at one extreme to the education of highly qualified specialists at the other. Apart from the basic education and training, there are also institutions for inservice training, orientation training, continuing education and team training. Finally, there

is an account of the various kinds of institutions for providing health services—hospitals, dispensaries and health centres.

## EDUCATION TRAINING AND RESEARCH

In the field of community health, four institutions occupy pivotal positions, apart from the many national institutions which concern themselves largely with special health problems. The All India Institute of Hygiene and Public Health, Calcutta (AIHPH), performs the key function of providing facilities for education, training and research in what is regarded as conventional public health (All India Institute of Hygiene and Public Health 1980). The National Institute of Health and Family Welfare, New Delhi (NIHFW), formed by a merger of the earlier National Institute of Health Administration and Education and the National Institute of Family Planning, plays a role complementary to that of the AIHPH (National Institute of Health Administration and Education 1971a). It provides a more comprehensive perspective to the practice of community health in India through emphasis on various aspects of health administration. This institute also gives crucially needed support to the biological, clinical, demographic and administrative aspects of the family welfare programme. The National Institute of Communicable Diseases, New Delhi, which works closely with the National Malaria Eradication Programme, is the forum for research and training on different aspects of eradication/control of communicable diseases of public health importance, particularly malaria and filariasis. The Calcutta School of Tropical Medicine is another key national organisation giving education and research support to clinical and epidemiological aspects of different tropical diseases.

Other national institutions have also played major roles in giving shape to certain national programmes on individual diseases. As will be detailed in the next chapter, findings from researches conducted at the Tuberculosis Chemotherapy Centre, Madras (now called the Tuberculosis Research Centre, Madras) and the National Tuberculosis Institute, Bangalore, have formed the basis of India's National Tuberculosis Programme. The Vallabhbhai Patel Chest Institute of Delhi University has also provided facilities for education and research on aspects of tuberculosis and chest diseases.

The Central Leprosy Teaching and Research Institute, Chingleput, is closely identified with the formulation of the National Leprosy Programme and is the apex institute for monitoring it and training leprosy workers.

The Family Planning Training and Research Centre, Bombay, the Institute for Research in Reproduction, Bombay, the Central Health Education Bureau, New Delhi, the Institute of Rural Health and Family

Planning, Gandhigram, the Public Health Institute, Nagpur, and the Rural Health Training Centre, Najafgarh, also support important aspects of the family planning programme.

Other institutions that make contributions to specific areas of community health are :

1. National Institute of Nutrition, Hyderabad
2. Cholera Research Centre, Calcutta
3. National Environmental Research Institute, Nagpur
4. Institute of Ophthalmology, Aligarh
5. Institute of Venereology, Madras
6. National Institute of Mental Health and Neurosciences, Bangalore
7. Hospital for Mental Diseases, Ranchi
8. National Institute of Occupational Health, Ahmedabad
9. All India Institute of Physical Medicine and Rehabilitation, Bombay
10. All India Institute of Speech and Hearing, Mysore
11. Cancer Research Institute, Bombay
12. Chittaranjan National Cancer Research Centre, Calcutta
13. Bernard Institute of Radiology and Cancer, Madras
14. Central Food Laboratory, Calcutta
15. Central Drugs Laboratory, Calcutta
16. Blood Group Reference Centre, Bombay

The Virus Research Centre, Pune, the Pasteur Institutes at Shillong and Coonoor, the King Institute of Preventive Medicine, Madras, the Indian Institute of Experimental Medicine, Calcutta, the Haffkine Institute, Bombay, the Central Research Laboratory, Kasauli, the BCG Vaccine Laboratory, Madras, the Vaccine Institute, Belgaum, the Indian Registry of Pathology, and the Laboratory Animal Information Service, are some of the institutions engaged in laboratory and epidemiological research on aspects of community health problems in India (Directorate-General of Health Services 1980 : 307-401).

### **OTHER RESEARCH ORGANIZATIONS**

The Indian Council of Medical Research (ICMR) is a government-financed autonomous apex body to promote research in various branches of medicine (Indian Council of Medical Research 1982a : 1-9). It has established many of the research institutions referred to above. In addition to fully financing them, the ICMR funds a number of research units located in medical colleges and other academic and research institutions. It also finances individual research projects proposed by scholars working in

medical colleges and other academic bodies. It has also established two Regional Medical Centres, one at Bhubaneswar and the other at Port Blair, to promote research in some areas which are of local interest.

Earlier, research in Indian systems of medicine and homoeopathy was coordinated by a similar government-financed autonomous institution called the Central Council for Research in Indian Medicine and Homeopathy. However, recognising the need for much greater efforts in this area, the following separate research councils have been set up :

- (1) Central Council for Research in Ayurveda and Siddha
- (2) Central Council for Research in Homeopathy
- (3) Central Council for Research in Yoga and Naturopathy
- (4) Central Council for Research in Unani Medicine

### **INSTITUTIONS FOR TRAINING PHYSICIANS**

As in the case of public health, four post-graduate medical institutions play pivotal roles in medical education. As recommended by the Bhore Committee (Government of India 1946a), the All India Institute of Medical Sciences (AIIMS) was established in New Delhi in 1956 with the following objectives (All India Institute of Medical Sciences 1979) :

- (1) developing approaches to undergraduate and post-graduate medical education suited to conditions prevailing in India;
- (2) training teachers for other institutions for education of physicians to enable them to attain self-sufficiency in post-graduate medical education;
- (3) bringing together at one place, clinical facilities of the highest order for training of personnel in all important branches of health activity; and
- (4) conducting high quality research.

Institutes similar to the AIIMS were also established at Calcutta, Chandigarh and Pondicherry.

Considering the complex problems involved in setting up a medical college, the progress in this field has been phenomenal (Government of India 1983c : 85-86). In 1948 there were only 25 medical colleges (Table 5.1). The number rose to 41 by 1957; to 60 by 1961; to 87 by 1966 and 106 by 1976. The increase in admissions capacity of these colleges was equally phenomenal (Table 5.1). There were 106 medical colleges in the country in 1982. The 100 Medical Colleges (from where information is available) have 11,054 seats for undergraduate medical education. The

**TABLE 5.1 : Number of Students Admitted in 1st Year MBBS Course and Qualified Final MBBS in India in Selected Academic Years 1947-48 to 1982-83**

Year	Total no. of medical colleges	No. of students	
		Admitted	Qualified
1947-48	25	1,983	959
1950-51	28	2,675	1,557
1955-56	41	3,660	2,743
1960-61	60	5,874	3,387
1965-66	87	10,520	5,387
1970-71	95	12,029	10,407
1974-75	105	11,615	11,911
1975-76	106	11,281	11,982
1976-77	106	11,176	11,981
1977-78	106	11,162*	14,156
1978-79	106	11,053*	12,370**
1979-80	106	10,988*	13,083**
1980-81	106	10,934*	12,170**
1981-82	106	10,749*	12,278**
1982-83	106	11,054	N.R.

N.R. Not received.

*Note :*

\*Data not received from 1 Medical College in 1977-78; 3 in 1978-79; 2 in 1979-80; 1 in 1980-81; 6 in 1981-82 and 1982-83.

\*\*Data awaited from 5 Colleges in 1978-79, 2 in 1979-80, 4 in 1980-81 and 6 in 1981-82 and 1982-83.

*Source :* Medical Council of India.

statewise admission capacity and turnout of these colleges are given in Table 5.2.

A significant aspect of growth of medical colleges in the country is the coverage of population in different states. As will be seen in Table 5.2, the number of admissions for each lakh (100,000) of population varies enormously. At one extreme, the figure is 2.73 for Karnataka, 2.36 for Jammu and Kashmir, 2.34 for Maharashtra and 2.31 for Kerala. At the other, it is 0.29 for Orissa, 0.76 for Bihar and 0.96 each for Uttar Pradesh and Haryana. This differential coverage has wide implications, quite apart from production of physicians. The attached hospital of a medical college makes available a high quality of medical care to the local population. Correspondingly, most facilities for post-graduate medical education are also concentrated in states which have a high ratio of admission in medical colleges. Distribution of medical colleges thus provides an important indicator of disparities in terms of health institutions and health manpower.

TABLE 5.2 : Population Coverage of Medical Colleges (MBBS) in India 1980-81

States/Union Territories	No. of medical colleges	No. of students admitted (1st year) 1980-81	No. of admission per one lakh* population	Entitlement of medical colleges**
1. Andhra Pradesh	8	911	1.71	11
2. Assam	3	N.A.	N.A.	4
3. Bihar	9	531	0.76	14
4. Gujarat	5	659	1.94	7
5. Haryana	1	124	0.96	3
6. Himachal Pradesh	1	66	1.56	1
7. Jammu and Kashmir	2	141	2.36	1
8. Karnataka	9	1,013	2.73	7
9. Kerala	4	586	2.31	5
10. Madhya Pradesh	6	509	0.98	10
11. Maharashtra	13	1,468	2.34	13
12. Orissa	3	75	0.29	5
13. Punjab	5	300	1.80	3
14. Rajasthan	5	460	1.35	7
15. Tamil Nadu	9	566	1.17	10
16. Uttar Pradesh	9	1,074	0.96	22
17. West Bengal	7	915	1.68	11
18. Delhi	4	763	12.31	1
19. Goa Daman and Diu	1	461	42.69	—
20. Pondicherry	1	70	11.68	—
21. Other and Union Territories	1	135	1.92	1
Total	106	10,927	1.58	136

\*1,00,000. N.A. Not available.

\*\*According to Health Survey and Planning Committee norm of one college per 50 lakhs of population.

Source : Government of India (GOI), Directorate General of Health Services (DGHS), *Health Statistics of India, 1981*.

About two-thirds of India's medical colleges have facilities for post-graduate education in one or more fields. These were, in 1978-79, able to offer admission to 3,851 for post-graduate degree courses and 2584 for post-graduate diploma courses. Table 5.3 lists the specialities covered, the number of institutions offering training in them and the level of admissions in 1978-79.

TABLE 5.3 : Specialitywise Seats Available and Number of Students Admitted in Post-graduate Medical Courses, 1978-79

Speciality	No. of insts. having (PG degree/ diploma course)	Seats available		Admissions (1978-79)	
		Degree	Diploma	Degree	Diploma
1	2	3	4	5	6
Anatomy	50	156	—	48	—
Physiology	54	169	—	70	—
Biochemistry	30	98	—	73	—
Microbiology	35	103	—	65	—
Pathology	52	177	177*	147	108
Pharmacology	53	154	—	62	—
Biophysics	4	2	22	2	16
Applied Biology	1	**	—	9	—
Medicine (General)	47	382*	—	373	—
Surgery (General)	48	373*	—	—	—
Obst. and Gynaec	64	391	421*	390	356
Forensic Medicine	23	33	19	22	7
Preventive and Social Medicine	36	105	53	77	30
Aneesthesiology	60	240*	324*	224	263
Ophthalmology	57	218	234*	205	195
Chest Diseases	29	43*	155	40	123
Child Health	42	—	247*	—	209
Orthopaedics	49	149	89*	146	76
Paediatrics	58	255	57	252	54
Radiology	53	140	205*	121	146
Public Health	3	40	72	36	63
Plastic Surgery	9	17	—	17	—
Thoracic Surgery	5	14	—	12	—
Psychiatry	16	66*	70	65	64
Occupational Health	3	14	5	2	1
Physical Medicine and Rehabilitation	2	9	3	4	2
Cardiology	10	15	37*	13	33
Neurology	12	45	11*	38	9
Otorhinolarvex	51	124	167*	117	109
Veneroriology and Dermatology	29	56	91	54	70
Gastroentrology	3	10*	—	7	—
Genito Urinary Survey	10	8	—	3	—
Hospital Administration	3	2	6	9	5
Nutrition	1	10	—	**	—
Virology	1	—	6	—	4
Maternal and Child Health	1	—	30	—	13
Industrial Health	2	—	14	—	10
Health Statistics	1	—	5	—	2

1	2	3	4	5	6
Health Education	1	—	30	—	30
Basic Medical Sciences	—	—	15	—	8
Speech and Hearing	1	10	—	9	—
Medical Lab. Technician	1	—	12	—	12
Endocrinology	1	—	1	—	1
Immuno Haematology and Blood Transfusion	1	—	2	—	2
Nephrology	1	—	4	—	4
Urology	1	**	—	2	—
Mycology	1	**	—	**	—
Master of Dental Surgery	—	223	—	119	—
All Specialities	—	3,851	2,584	3,197	2,025

— Nil

\*These are institutions which have not indicated seats available against admissions made. In such cases, the number of seats available has been taken as the number of admissions made.

\*\*Information not available.

Source : GOI, DGHS, *Health Statistics of India*, 1981.

INSTITUTIONS FOR TRAINING IN TRADITIONAL SYSTEMS OF MEDICINE AND HOMOEOPATHY

In 1981, there were 95 institutes providing under-graduate training in ayurveda with a total annual capacity of 3,306. There were 16 institutions for undergraduate education in the unani system, with a capacity of admitting 535 students. One institution with a capacity of 75 provides training in siddha. There are 122 colleges of homoeopathy with a total annual capacity for 7,513 students. The details are given in Table 5.4.

The wide variations in the statewide distribution of number of colleges providing education in the three Indian systems of medicine and in homoeopathy is quite evident (Table 5.4).

INSTITUTIONS FOR EDUCATION OF DENTISTS, NURSES, PHARMACISTS AND OTHER HEALTH WORKERS

India has 22 dental colleges with a total capacity for training 722 dentists annually. Fifteen of them have facilities for post-graduate education, with a capacity for admitting 152 students (Government of India : 1983c : 92). There were only 4 undergraduate dental colleges in 1950-51.

There are 21 colleges of nursing offering graduate degrees in nursing with a total admission capacity of approximately 163 (Government of

TABLE 5.4 : Number of Colleges of Indian Systems of Medicine and Homoeopathy and their Admission Capacity—1981

Sl. No.	States/Uts.	Ayurveda		Unani		Siddha		Homoeopathy	
		No. of colleges	Admission capacity	No. of colleges	Admission capacity	No. of college	Admission capacity	No. of colleges	Admission capacity
1.	Andhra Pradesh	3	110 (3)	2	80 (2)	—	—	3	125 (3)
2.	Assam	1	25 (1)	—	—	—	—	5	200 (5)
3.	Bihar	11	180 (3)	1	40 (1)	—	—	26	2135 (16)
4.	Gujrat	9	258 (9)	—	—	—	—	3	190 (3)
5.	Haryana	4	200 (4)	—	—	—	—	—	—
6.	Himachal Pradesh	1	50 (1)	—	—	—	—	—	—
7.	Jammu & Kashmir*	1	— (1)	—	—	—	—	—	—
8.	Karnataka	8	195 (8)	1	15 (1)	—	—	6	435 (5)
9.	Kerala	5	170 (5)	—	—	—	—	4	250 (4)
10.	Madhya Pradesh	7	187 (7)	1	25 (1)	—	—	13	490 (13)
11.	Maharashtra	17	795 (17)	1	50 (1)	—	—	24	1221 (24)
12.	Orissa	2	60 (2)	—	—	—	—	3	140 (3)
13.	Punjab	3	130 (3)	—	—	—	—	3	140 (3)
14.	Rajasthan	3	180 (3)	3	80 (2)	—	—	3	140 (3)
15.	Tamil Nadu	2	40 (2)	1	15 (1)	1	75	1	21 (1)
16.	Uttar Pradesh	9	410 (9)	4	180 (4)	—	—	16	670 (13)
17.	West Bengal*	4	120 (2)	—	—	—	—	10	1236 (10)
18.	Delhi	4	150 (4)	2	50 (2)	—	—	1	60 (1)
INDIA		95	3306 (85)	16	535 (15)	1	75	122	7513 (108)

— Nil information.

\* Admission closed in three colleges viz., 1. in Jammu &amp; Kashmir and 2. in West Bengal.

( ) Figures in bracket indicate reporting units.

Source : GOI, DGHS, *Health Statistics of India, 1982*.

TABLE 5.5 : Outturn of Graduate/Diploma/Certificate Nurses, Auxiliary Nurse, Midwives and Health Supervisors in Selected Years, 1950—1982

Category	1950	1956	1961	1966	1970	1975	1980	1981	1982
1. Nurses (B.Sc.)	14	32	43	70	101	143	163	N.A.	N.A.
2. Nurses (Diploma/certificate)	1,282	1,914	2,851	5,456	6,257	5,202	7,256	8,144	7,666
3. Midwives	1,559	2,605	2,277	4,119	5,416	5,578	6,541	7,406	7,101
4. Auxiliary nurse midwives (Health workers female)	—	299	2,083	3,701	5,104	5,660	4,264	5,572	6,025
5. Health Supervisor (Lady health visitors)	53	123	315	419	479	752	483	567	683

N.A. Not available.

Source: Indian Nursing Council

India : 1982b : 71). Two nursing colleges also provide facilities for a master's degree. Degree/diploma/certificate-level education in nursing is offered by 286 institutions with a capacity of 8263 seats a year (Tables 5.5, 5.6).

There are now 116 institutions with a total admission capacity of 5596 which provide diploma level education in pharmacy (Government of India, 1983c : 69). In addition, graduate and postgraduate level courses in pharmacy are offered by many Indian universities.

India has also developed an elaborate network of institutions for training various categories of para-medical workers/auxiliary health workers (Table 5.6). As many as 346 institutions train 6,929 Auxiliary Nurse-

**TABLE 5.6 : Institutions and Admission Capacity/No. Admitted in Different Para-medical Courses – 1981**

Sl. No.	Description of Course	Duration of training	No. of Institutions	Admission capacity/ No. Admitted
1.	General Nursing	B.Sc=4 years Diploma/ Certificate 3 yrs.	286	8,263
2.	A.N.Ms. (Female health workers)	1 year 6 months	346	6,929
3.	Midwives (for Qualified Nurses)	6 months	276	6,541
4.	Health Supervisor	6 months to 2 years 6 months	21	556
5.	Health Inspector/Sanitary Inspector	1 years in most institutions but ranges from 3 months to 1½ yrs. in a few states	35	2,830
6.	Laboratory training	6 months to 2 years	69	1,498
7.	Medical Micro Biology	2 years	1	20
8.	Medical Entomology	65 working days	1	30
9.	Audometry, Radiology, Optometry and Electronic Techniques	2 years	1	30
10.	Health Education (Diploma)	1 year	2	55
11.	Health Statistics (Diploma)	1 year	1	5
12.	Dietics (Diploma)	10 months	1	20
13.	Medical Record Officer's Course	1 year	3	26
14.	Medical Record Technician Course	6 months	2	20
15.	Gen. and Health Statistic's Course	10 weeks	1	15
16.	Medical Coding Course	12 weeks	1	15

*Note* : Information for Sl. Nos. 5 to 12 relates to 1979.

*Source* : GOI, DGHS, *Health Statistics of India, 1983*.

Midwives (ANMs) or Female Health Workers each year; 21 institutions have an annual capacity for training 556 Health Supervisors (female)/Health Assistant (female)/Lady Health Visitor (LHV). Thirty-five institutions train 2,830 Sanitary Inspectors/Health Inspectors each year; 69 institutions provide facilities for training 1,498 Laboratory Technicians. For training of Male Health Workers, some 372 training institutes have been set up with an annual capacity of 1,605 (Government of India 1982b : 84-85). In addition, by 1979 there were 991 institutions with facilities for training 3,894 dais (traditional birth attendants) annually (Government of India 1982b : 73). Up to 1983, 4,019 PHCs have given training to Community Health Guides (Government of India 1983c : 114).

## INSTITUTIONS FOR MEDICAL CARE SERVICES

### Hospitals

India has 6,901 hospitals with a total capacity of 486,805 beds. It is significant that as many as 421,216 beds (86 per cent) are in 5,045 hospitals in urban areas; only 65,589 beds in 1,856 hospitals are located in rural areas. Table 5.7 gives details of numbers of hospitals and beds in rural and urban institutions.

The concentration of hospital beds in urban area is understandable since a hospital of a reasonable size needs certain infrastructural facilities which are usually available only in urban areas. Further, urban areas, in addition to being densely populated, have large rural populations in their hinterlands. Therefore, they are usually reasonably good access points for rural populations.

It is in the distribution of beds per thousand population in different states that disparities becomes most obvious (see Table 9.13). Considering only the states with large populations, Kerala is way ahead of the others in this respect. Gujarat and Punjab also have low population bed ratios. On the other hand, in Madhya Pradesh, Bihar, Orissa and Uttar Pradesh, the ratio is much higher.

Table 5.8 provides interesting information concerning hospitals run by private and a voluntary organisations. The states of Kerala and Gujarat stand out very prominently in terms of the number of beds in this sector. Maharashtra and Gujarat are the only states which have any substantial number of hospital beds under the control of local bodies.

There is also a distinct stratification in the quality of services provided in different hospitals. At the top are the highly sophisticated services provided by the four post-graduate institutes. These are followed by hospitals attached to colleges which offer both undergraduate and post-

TABLE 5.7 : Hospitals and Beds as on Jan. 1983 in the Various States/Union Territories

Sl. No.	Name of the States/Uts	Rural		Urban		Total	
		Hosp.	Beds	Hosp.	Beds	Hosp.	Beds
1.	Andhra Pradesh*	169	3,670	439	30,201	608	33,871
2.	Assam	38	2,207	73	7,438	111	9,645
3.	Bihar**	19	589	207	21,985	226	22,574
4.	Gujarat**	30	1,469	798	30,612	828	32,081
5.	Haryana	7	418	79	6,892	86	7,310
6.	Himachal Pradesh	19	383	35	2,417	54	2,800
7.	Jammu & Kashmir****	2	60	33	3,883	35	3,943
8.	Karnataka	47	2,602	186	27,227	233	29,829
9.	Kerala***	595	21,635	163	21,443	758	43,078
10.	Madhya Pradesh	43	751	233	16,076	276	16,827
11.	Maharashtra	154	6,298	931	70,479	1,085	76,777
12.	Manipur	12	367	9	899	21	1,266
13.	Meghalaya	1	30	10	1,547	11	1,577
14.	Nagaland	29	635	5	443	34	1,078
15.	Orissa*	145	2,363	159	9,131	304	11,494
16.	Punjab*	111	3,169	144	11,163	255	14,332
17.	Rajasthan	23	1,072	206	16,951	229	18,023
18.	Sikkim	4	225	1	252	5	477
19.	Tamil Nadu*	97	3,695	279	36,920	376	40,615
20.	Tripura	4	125	12	1,110	16	1,235
21.	Uttar Pradesh	85	2,552	648	43,693	733	46,245
22.	West Bengal	146	9,190	257	40,131	403	49,321
23.	A & N Islands*	10	324	3	273	13	597
24.	Arunachal Pradesh*	16	488	6	434	22	922
25.	Chandigarh	—	—	2	1,120	2	1,120
26.	D. & N. Haveli	1	50	—	—	1	50
27.	Delhi	2	62	61	13,229	63	13,291
28.	Goa, Daman & Diu	39	810	50	2,590	89	3,400
29.	Lakshadweep	2	50	—	—	2	50
30.	Mizoram	6	300	4	410	10	710
31.	Pondicherry*	—	—	12	2,267	12	2,267
Total		1,856	65,589	5,045	4,21,216	6,901	4,86,805

Note :

— Nil.

\* information as on 1-1-1982.

\*\* as on 1-1-1981

\*\*\* as on 1-1-1979.

\*\*\*\* as on 1-1-1978.

Source : GOI, DGHS, *Health Statistics of India, 1983.*

graduate medical education. Next are those attached to institutions which provide only undergraduate education. Then there are big general hospitals located in metropolitan cities, followed by district hospitals at district headquarters with bed strengths ranging between 50 and 200. Hospitals at the taluk/tehsil level have bed strengths ranging from 20 to 50. Recently the

TABLE 5.8 : Hospitals and Beds According to Ownershipwise as on Jan. 1983 in the Main States/Union Territories

Sl. No.	Name of the States/Uts.	Govt.		Local Bodies		Pvt./Vol. Org.		Total	
		Hosp.	Beds	Hosp.	Beds	Hosp.	Beds	Hosp.	Beds
1.	Andhra Pradesh	338	22,722	4	46	266	11,103	608	33,871
2.	Assam	81	7,559	—	—	30	2,086	111	9,645
3.	Bihar	100	14,078	1	49	125	8,447	226	22,574
4.	Gujarat	102	11,502	57	3,650	669	16,929	828	32,081
5.	Haryana	68	4,744	—	—	18	2,566	86	7,310
6.	Himachal Pradesh	43	2,562	5	58	6	180	54	2,800
7.	Jammu & Kashmir	30	3,667	included in Govt.		5	276	35	3,943
8.	Karnataka	149	21,267	30	783	54	7,779	233	29,829
9.	Kerala	152	24,875	included in Govt.		606	18,203	758	43,078
10.	Madhya Pradesh	276	16,827	+	+	+	+	276	16,827
11.	Maharashtra	224	37,790	179	12,963	682	26,024	1,085	76,777
12.	Orissa	267	9,988	3	98	34	1,408	304	11,494
13.	Punjab	216	11,316	4	103	35	2,913	255	14,332
14.	Rajasthan	190	16,010	2	54	37	1,959	229	18,023
15.	Tamil Nadu	307	31,574	8	479	61	8,562	376	40,615
INDIA		3,500	3,29,245	379	23,294	3,022	1,34,266	6,901	4,86,805

+ Not available.

Source : GOI, DGHS, Health Statistics of India, 1982.

building of a 25-bed hospital in one out of every four primary health centres has been taken up. The other primary health centres have 6 to 10 beds each.

### **Dispensaries**

Curative services are also provided through out-patient dispensaries which also have a few beds attached to them. There are 5,468 dispensaries with 6,949 beds in urban areas and 11,987 dispensaries with 23,149 beds in rural areas. Table 5.9 gives the statewise distribution of urban and rural dispensaries and beds. This once again shows considerable variations in the number of dispensaries. Karnataka, Maharashtra, Rajasthan and Uttar Pradesh have large numbers of dispensaries. Gujarat and West Bengal have very few. In terms of ownership, Maharashtra has a very large number of dispensaries in the private and voluntary sector. Again, in terms of dispensaries run by local bodies, Maharashtra stands out along with Andhra Pradesh and Gujarat (Government of India 1983c : 144-45). Punjab, Maharashtra and Uttar Pradesh lead in terms of beds attached to dispensaries.

In 1974, there were over 9,000 government-financed dispensaries functioning under indigenous systems of medicine and homoeopathy (Government of India 1974e). Most of the dispensaries are located in rural areas.

### **Primary Health Centres (PHCs) and Sub-centres**

Table 5.10 shows the expansion of the network of primary health centres and sub-centres since the First Plan. There were in 1983, 5,955 primary health centres and 65,463 sub-centres in rural India.

From Table 5.10 it will be seen that almost four-fifths of the PHCs had come into existence by 1966. Subsequently, the growth has been relatively slow, but that may be because it was already possible to cover most the country with existing PHCs. It is significant that, after the coverage through PHCs was reasonably complete, there has been a steady rise in the number of sub-centres. This process too was almost completed by 1970.

Today, India's health system is in a position to make health care available to villages through Community Health Guides, supported by male and female multipurpose health workers (one each for every 5,000 people), backed by sub-centres, PHCs, dispensaries, taluk/tehsil hospitals, district hospitals, general hospitals, metropolitan and medical-college hospitals and hospitals in post-graduate and specialised institutions. All these are supported by an extensive network of institutes of education, training and research. The building up of this wide network of health institutions, even though health

TABLE 5.9 : Dispensaries and Beds as on Jan. 1983 in the Various States/ Union Territories

Sl. No.	States/UTs.	Rural		Urban		Total	
		Disp.	Beds	Disp.	Beds	Disp.	Beds
1.	Andhra Pradesh*	536	204	169	26	705	230
2.	Assam	406	48	30	84	436	132
3.	Bihar**	986	4,830	16	96	1,002	4,926
4.	Gujarat***	380	993	90	230	470	1,223
5.	Haryana	150	506	103	275	253	781
6.	Himachal Pradesh	226	273	20	27	246	300
7.	Jammu & Kashmir****	621	181	27	4	648	185
8.	Karnataka	1,212	1,241	277	1,527	1,489	2,768
9.	Kerala***	710	1,650	40	49	750	1,699
10.	Madhya Pradesh	527	114	118	—	645	114
11.	Maharashtra	1,227	875	2,474	2,292	3,701	3,167
12.	Manipur	49	—	3	—	52	—
13.	Meghalaya	57	48	1	—	58	48
14.	Nagaland	72	42	7	—	79	42
15.	Orissa*	224	—	77	—	301	—
16.	Punjab*	1,488	5,991	203	539	1,691	6,530
17.	Rajasthan	931	938	423	876	1,354	1,814
18.	Sikkim	+	+	+	+	+	+
19.	Tamil Nadu*	312	349	354	294	666	643
20.	Tripura	132	48	6	—	138	48
21.	Uttar Pradesh	1,196	4,600	412	630	1,608	5,230
22.	West Bengal	272	6	147	—	419	6
23.	A & N. Islands*	61	—	6	—	67	—
24.	Arunachal Pradesh*	66	132	—	—	66	132
25.	Chandigarh	6	—	19	—	25	—
26.	D & N Haveli	7	6	—	—	7	6
27.	Delhi	78	—	433	—	511	—
28.	Goa Daman & Diu	32	—	8	—	40	—
29.	Lakshadweep	—	—	—	—	—	—
30.	Mizoram	—	—	—	—	—	—
31.	Pondicherry*	23	74	5	—	28	74
Total		11,987	23,149	5,468	6,949	17,455	30,098

## Notes :

— Nil

+ Not Available

\* information as on 1-1-1982

\*\* as on 1-1-1981

\*\*\* as on 1-1-1979

\*\*\*\* as on 1-1-1978

Source : GOI, DGHS, Health Statistics of India, 1983.

TABLE 5.10 : Establishment of Primary Health Centres and Sub-centres in India Since First Plan

	PHCs	Sub-centres
First Plan	725	—
Second Plan	2,565	—
Third Plan	4,631	—
<i>Inter-Plan Period 3 Years</i>		
As on 31-3-1967	4,793	17,521
As on 31-3-1968	4,946	21,539
As on 31-3-1969	4,919	22,826
<i>Fourth Five Year Plan</i>		
As on 31-3-1970	5,015	23,527
As on 31-3-1971	5,112	28,489
As on 31-3-1972	5,183	28,167
As on 31-3-1973	5,248	31,034
As on 31-3-1974	5,283	33,509
<i>Fifth Five Year Plan</i>		
As on 31-3-1975	5,293	33,616
As on 31-3-1976	5,328	34,088
As on 31-3-1977	5,380	38,110
As on 31-3-1978	5,400	38,115
<i>Sixth Five Year Plan</i>		
As on 31-3-1979	5,423	40,124
As on 31-3-1980	5,484	49,049
As on 31-3-1981	5,568	51,192
As on 31-3-1982	5,739	59,511
As on 31-3-1983	5,955	65,643

Source : GOI, DGHS, *Health Statistics of India*, 1983.

care delivery still falls short of expectations in several respects, must be recognised as one of India's substantial achievements since becoming independent.

## ANALYSIS AND EVALUATION

A Third World country like India needs health institutions which are often qualitatively very different from those existing in industrialised countries and even from those which operated in these countries in the early phases of their industrialisation. As has been pointed out earlier, in colonial countries, Western medicine was superimposed on the existing indigenous systems, inspite of the socio-cultural setting in the colonies being entirely different to that in the metropolitan countries. The extensively prevalent

poverty, the fact of the resources, including health manpower resources, being very limited, the very different pattern of health problems and the disease load per thousand population being much higher in the colonies than in the West, were all ignored. In this situation, we have the political commitment to provide health for all through the approach of primary health care by A.D. 2000.

While diffusion of the 'core' of scientific medical knowledge into India was most welcome, care was needed to separate that core from the accretion of Western-oriented socio-economic overcoatings and to integrate the useful core within a socio-cultural envelope which blends harmoniously with the conditions prevailing in our country.

It is apparent that consideration of these many important factors for health service development requires what can be called an 'epidemiological approach'; or practice of 'community-side medicine', as opposed to the practice of 'bedside medicine'. This requires 'systems thinking' and 'systems research'. The health problems of a community must be considered as a whole and a careful strategy must be worked out to find the most effective ways of dealing with these problems within the prevailing constraints. For this purpose, it is necessary to consider four major categories of factors:

1. *Community considerations* : Cultural meaning and community perception of health problems, community health behaviour, pre-existing health institutions and health practices, social and political structure, communication system, mechanism of decision making and social control over community institutions, and other such socio-cultural, political and economic considerations are included in this category. As the community is the pivot for health service development, this forms the most crucial category.
2. *Epidemiological considerations* : Size, extent and causes of various community health problems, changes in these parameters over time and their social and economic implications, form another category. It may be noted that there is close interaction between epidemiological considerations with the other three categories of considerations.
3. *Social orientation of technology* : Constraints in resources and the administrative and organisational capacity provide the backdrop for choosing a package of technology which offers effective returns from investment of resources, both in terms of alleviation of suffering of the people and in terms of epidemiological impact. This also influences the approach to manpower development.

4. *Organization and management of health services* : The above considerations form the foundations for building the organisational structure, the network of institutions of various kinds and the managerial process for delivery of services from the institutions.

Systems thinking and a systems approach to health services thus have three important characteristics : (a) the community is considered as a whole, that is, the thinking and approach have to be holistic; it can be considered in fragments only when these fragments are related to the whole; (b) it requires inputs from a wide range of bio-medical and social sciences; and (c) as a service system is an organised complexity, inputs from the different disciplines must be considered together, in all their complex interactions.

Because of its complex nature, health systems research requires a methodological approach which goes beyond the conventional clinical and laboratory research and field surveys. It requires : (a) definition of the community health problem in all its dimensions; (b) bringing together data needed for solving the problem; (c) formulating alternative ways of solving the problem; (d) identifying the most effective solution; (e) subjecting the identified solution to tests under actual field conditions—test run; and (f) implementing the solution on a large scale with a built-in mechanism for monitoring and evaluation (Luck 1971; Banerji 1972; Andersen 1964).

A systems approach and systems research studies are thus critical for developing community health services. These form the basis for choice of technology, health manpower development, formation of different types of institutions and organisation and management of health services.

A notable feature of health service development is that this need was recognised quite early and, as described above, a large number of institutions have been established to provide the needed inputs. Along with this, an extensive network of institutions have come into existence with the object of making health services accessible to the people of the country. These achievements are very valuable national assets.

However, yet another notable feature is that the institutions, which were given specific social mandates to make key contributions to health service development in the country, have in performance very often fallen far short of the expectations. As will be discussed in subsequent chapters, the Indian Council of Medical Research and other national institutions entrusted with the task of conducting health services research have very clearly failed to develop a sound base for health service development. In the absence of such research findings, the field is left open for committees, working groups, etc., to come forward with recommendations which have

far reaching implications, without adequate data bases or even thoughtful scholastic analysis, involving an epidemiological approach. Such simplistic approaches to problems, which are essentially of very complex nature, have brought about major distortions in the development of health services in India as will become evident in our discussions of individual sectors of the health services and their total impact.

## TECHNOLOGICAL REQUIREMENTS AND MANPOWER DEVELOPMENT

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### SOCIAL ORIENTATION OF TECHNOLOGY

WHEN considering the development of technology for health services, some major factors have to be borne in mind :

1. Polarisation of the population between a politically powerful small privileged class at one extreme and the large mass of the under-privileged with little political power at the other.
2. This pattern of polarised power has a profound influence on political decisions concerning choice of technology and allocation of resources for different components of the health services. As the privileged class possesses the power and their health problems are similar to those of people in affluent societies, the tendency has been to import high technology relevant to their needs. This explains why, in spite of acute limitations of resources, so many expensively equipped medical institutions have been set up, and the clamour for setting up more.
3. Because of the colonial legacy, the value system of medical personnel is in consonance with that of the privileged class which wield political power.
4. Economic and political interests in affluent industrialised countries actively promote sale of sophisticated technology to expand their markets and increase the dependency of the political leadership on them.

It is these factors that has prevented any real breakthroughs in India's health situation, other than the elimination of smallpox. For instance,

isonicotinic acid hydrazide (INH) and other specific drugs against tuberculosis, dapsone against leprosy, hetrazan against filariasis and worm infestations, potent vaccines against many communicable diseases, which should have made it easier than ever before to make reasonably effective health services available to large numbers of people, have not yet been made universally accessible.

This identification of the interests of the ruling classes in India with the political and economic interests of Western countries is most starkly exposed in the choice of technology for the tuberculosis and nutrition campaigns.

When the mobile mass radiography industry ran out of markets in the West because of a sharp decline in the incidence of tuberculosis there, it launched an aggressive campaign for capturing markets in Third World countries. It created the bogey that without mass radiography tuberculosis could not be controlled; that in tradition-bound, superstition-ridden populations, tuberculosis patients could be diagnosed only by filtering huge populations through mobile mass radiography units. Social scientists in Third World countries dutifully echoed these 'findings' (Sikand and Raj Narain 1957). The industry also lobbied in Western countries for providing generous assistance to Third World countries in the form of mass radiography units.

However, a carefully designed sociological study (Banerji and Andersen 1963) yielded data which were contrary to what had been asserted by agents of the radiography industry and their supporters in India. It revealed that, far from having to chase tuberculosis patients in a community with the aid of mobile mass radiography units, the patients themselves, impelled by need, were chasing various health institutions in rural areas to seek alleviation of their suffering.

Similarly, for long, international food and drug industries have been successful in propagating the idea that poverty-stricken people needed 'high class proteins', vitamins and other supplements to save them from malnutrition (Banerji 1979b). Along with their allies in the fields of food technology and nutrition research in Third World countries, they have for long kept from public knowledge the now well-known fact that the major problem of malnutrition in poor countries is not so much lack of high class proteins, vitamins or other 'protective foods', but lack of buying power to get the *calories* to meet their energy requirement (Gopalan and Narsingrao 1971; Sukhatme 1978).

In the same field, another myth that was floated was that severe undernutrition in early life leads to permanent mental retardation due to brain damage (National Academy of Sciences 1973). From an objective scientific standpoint, there never has been any sound evidence to support this assertion (Banerji 1979b). Yet, presumably because of its political

potential, in the late sixties some eminent nutritionists from Western countries, with full backing from their Third World followers, managed to generate intense anxiety on this score on a global scale. The then Secretary General of the UN was moved to appeal to member states for immediate action to fill what was then termed the 'Protein Gap' and avert the impending disaster of permanent brain damage to millions of undernourished children in the Third World (United Nations 1968).

However, there was, as we have noted, also the commitment of the leadership of the national movement. Because of this, much effort has been devoted to developing technology which would bring maximum benefit to the people. The Primary Health Centre (PHC) has been conceived to provide technology for curative, preventive and promotive health services to rural populations as near as possible to their doorsteps. Despite the many drawbacks in their functioning, PHCs do, often in extremely difficult conditions, apply a large variety of improvised technologies to offer services to deprived rural populations. Diagnosis and treatment of diseases like tuberculosis, leprosy, malaria, diarrhoeas and dysenteries, pneumonias, worm infestations, anaemias, bone fractures and injuries, normal and complicated childbirths, and provision of various contraceptive services, are some instances of activities requiring considerable innovation and improvisation in the rural setting.

Obviously, taken individually, these services do not compare favourably in terms of quality with what is practised in advanced industrialised countries or, for that matter, in sophisticated institutions within the country. However, from the standpoint of a managerial physician, one who adopts an epidemiological approach to community health, these innovations and improvisations represent remarkable efforts to subordinate technology to the needs of people. In these cases, taking a community approach, the very limited resources are used to provide the greatest good to the greatest number. Because of resources limitations, it is preferred to use a technology which has, say, a 90 per cent chance of being efficacious but can cover all the patients in the community, rather than one which is, say, 100 per cent efficacious but, because of high cost, would cover only 10 per cent of the patients.

Development of such cost-effective simplified technologies also permits employment of personnel with limited education and skill for their delivery. This is yet another significant feature of health services in India. It has considerably strengthened the health care delivery system.

This trend has been carried still further by the appointment of personnel from within the community who have been variously described as Community Health Workers, Community Health Volunteers or Community Health Guides. This represents the most advanced phase of demystification, decentralisation and deprofessionalisation of medicine. To promote com-

munity self-reliance, these community representatives are assisted in acquiring elementary training and provided with a supply of simple technological devices that will enable the community to develop the capability of coping with many of its health problems on its own.

The process of formulation of India's National Tuberculosis Programme provides a significant example of development of manpower to fit this changing role of technology in health services. It was designed to cover the existing felt need for tuberculosis services (Banerji 1972).

In an attempt to find an alternative to the then available technology of chemotherapy and various forms of surgical treatment of tuberculosis patients in sanatoria, a well-designed field trial was conducted at the Tuberculosis Chemotherapy Centre, Madras (Tuberculosis Chemotherapy Centre 1959), which yielded a most crucial finding—that home treatment of tuberculosis patients is as efficacious (both in clinical and epidemiological senses) as their treatment in well-established sanatoria: the cost is cut down by as much as thirty-fold, from the then estimate of Rs. 3000 for sanatorium treatment to Rs. 100 for highly organised and supervised home treatment (Banerji 1967b). This change led to changes in the manpower structure of the tuberculosis programme.

As mentioned earlier, sociological studies of the problem of tuberculosis in rural communities revealed that, motivated by the suffering caused by the disease, more than half of all infectious cases sought treatment at different health institutions—primary health centres, dispensaries, clinics and hospitals; about three-quarters of them were found to be 'worried' by the suffering, and most of the rest were 'conscious' of the symptoms of the disease (Banerji and Andersen 1963). A survey of rural health institutions in these areas revealed that most of the tuberculosis patients who visited them were not even diagnosed as cases of pulmonary tuberculosis; and, for the few who were diagnosed as positive cases, there was virtually no facility for treatment (Banerji 1971b).

This adding of a sociological dimension to epidemiological data was an important phase in the evolution of a people-oriented technology; a technology which is specifically designed to reach out to the people, which is not only simple and appropriate but which is an epidemiologically efficacious method of covering over 90 per cent of the cases in a community, including those in remote rural areas (Banerji 1971b). The sociological data not only indicated that there was considerable willingness, even desire, among infectious cases to take treatment, but also that it is possible to develop a simple but scientifically sound method of diagnosing tuberculosis cases in remote rural areas and to work out a system to provide supervised domiciliary treatment. These findings, which were derived by 'going to the people and learning from them', were the foundations on which the basic structure of a nationwide tuberculosis programme for India was built. In

this programme, the service system, including the manpower structure, was specifically designed to meet the needs of people. The referral system incorporated in the programme ensures that, if a patient's clinical condition so warrants, he or she will have access to the most sophisticated treatment, however remote or isolated the patient's place of domicile. This is a major step in the democratisation of health services and is a vital plank in the approach of primary health care.

An extensive study of health behaviour of people in rural areas has revealed that because of persisting major weaknesses, the rural community health services are, unfortunately, also far from being effective in the case of other diseases. The findings of the study tend to show that the weakness of the services is largely attributable to a failure to base their planning on an assessment of felt needs and lack of appreciation of the fact that a community health programme has to be in harmony with the health culture of a community if it is to be effective (Banerji 1982a : 218-24).

## **MANPOWER DEVELOPMENT**

### **Some Qualitative Issues**

Manpower development for health services has to be analysed in terms of the nature, size and extent of health problems, the availability of resources, and the nature of technology chosen for using these resources to deal with health problems. 'Standards' set by affluent industrialised countries are irrelevant in this context. Indeed, quite apart from the entirely different conditions obtaining in affluent industrialised countries, considerable doubt has been expressed about the relevance of the existing technology adopted within these countries themselves (see, for example, Illich 1977; Sterky 1978; McKnight 1978; Lalonde 1974).

In view of these considerations, the time-honoured indices of doctor-population ratio or nurse-population ratio are of limited significance. The norms adopted for these are open to serious question. Besides, if one must use such ratios, they must be population and region specific: What are the ratios in metropolitan cities, as compared to smaller towns and villages? What are the ratios in economically or socially advanced regions, as compared to those that are backward? And so on.

Also, indices of manpower development should not revolve merely round the number of physicians and nurses. At best, the number of those professionals is relevant for hospitals where they have key roles. In a country where a very big proportion of health services activities take place outside hospitals, the indices should embrace a much wider range of professionals and supporting staff.

In addition, manpower development demands promotion of team work. This brings into focus the vital question of the quality of education and training received by community health personnel, health professionals, and the supporting staff. Socialisation of personnel in cloistered hospital settings during their education and training is inimical to the type of work they are required to do at district and taluk hospitals, PHCs, sub-centres, dispensaries and villages. Finally, manpower development of a Third World country like India must be studied in terms of the rate of growth, rather than in terms of absolute numbers.

As has been mentioned earlier, soon after the country gained independence, a reorientation of medical education and training was attempted through establishment of departments of preventive and social medicine in medical colleges. In the three decades since then, sustained efforts have been made to carry this reorientation process forward. A number of commissions have sat and a number of national conferences have been held to stimulate this process.

Taking note of past experience, the Group on Medical Education and Support Manpower (Shrivastav Committee) (Government of India 1975), which examined medical education in the context of the reorganised health services, submitted in April 1975 a programme for immediate action. Against a background of the need (a) to relate the problem of health to poverty; (b) to provide training in health services to community representatives; (c) to strengthen primary health centres; and (d) to develop a referral service complex, the Group made many far-reaching recommendations concerning the basic content, structure and process of medical education. Essentially, the group was for the creation, by an Act of Parliament, of a Medical and Health Education Commission (patterned on the University Grants Commission) charged with the responsibility of determining and implementing a radical programme of reform in medical and health education, and with functioning as an apex coordinating agency in close and effective collaboration with the statutory national councils on health professions.

The Shrivastav Committee emphasised the need for in-depth discussions and taking of concrete steps for 'immediate, vigorous and sustained implementation' in tackling important issues. These included: determining of objectives of undergraduate medical education; giving it a positive orientation; reorganising pre-medical education; revising the undergraduate curriculum, including training of teachers; production of teaching and learning materials; adopting suitable teaching and evaluation methods and creating necessary physical facilities; reducing the duration of the course while ensuring improved standards; reorganising the internship programme, post-graduate teaching and research and continuing education; and, research and evaluation of health manpower needs.

The report of the Group was favourably received by the Government of India which called yet another nationwide conference of heads of medical colleges to work out details for implementing at least some of the recommendations. The ICSSR-ICMR report, *Health for All : An Alternative Strategy*, further reinforced the Group's recommendations (ICSSR-ICMR 1981). The Working Group of the Planning Commission, set up to work out a detailed strategy for attaining Health for All by A.D. 2000, reiterated the need for radical transformation (Government of India 1981a).

These efforts are reflected in the Sixth Five Year Plan (Government of India 1981b) which states that the 'emphasis would be on bringing about qualitative improvement in medical education and training' which would include, at the undergraduate level, six months of compulsory internship and modifications in curriculum, training of medical undergraduates in certain fields relevant to the problems of rural health care, community orientation, etc., and encouraging private doctors to settle in rural areas through various incentives. Post-graduate education would be rationalised to effect a balance between the national requirements of specialisations and opportunities for medical graduates for advanced study. Continuing education and inservice training would be promoted. Medical research would be directed towards several problem areas like bio-medical and public health problems, particularly communicable diseases, the economic aspects of health administration and management, etc. Among the task-oriented research programmes for achieving the above objectives, one would be 'close and continuous studies in the area of information support, manpower development, appropriate technology, management and community involvement to ensure the reach of benefits of primary health care programmes to the rural population' (Government of India 1983e : 58).

Reference has already been made in Chapter 3 to the draft National Medical Education Policy for India.

The Sixth Plan allotment for medical education and research is more than double that in the Fifth Plan—Rs. 6385.9 million against Rs. 2931 million (Government of India 1981b: 328). This sector has received higher outlays than the Minimum Needs Programme (Rs. 5770 million) and programmes for control of communicable diseases (Rs. 5240 million).

Efforts have also been made to bring about a change in the orientation of physicians in government health services, mainly through various in-service training programmes. Each state has built up a network of institutions for this purpose.

The National Institute of Health Administration and Education (NIHAE) was set up in 1962 to provide orientation training to senior health administrators of states. The objective was to develop both managerial and epidemiological competence—to make Managerial Physicians

(National Institute of Health Administration and Education 1971a). NIHAE is one of the few institutions of its kind in the world. It was the first to initiate a Staff College Course to train managerial physicians (on the lines of the military and the Henley-on-Thames programme of training public administrators in the UK). It has also started courses in such areas as hospital administration, community health research and evaluation, health planning and health economics, medical sociology and medical anthropology. NIHAE's programmes for education and training got further strengthened and expanded in the wake of the recommendations of the Shrivastav Committee.

The NIHAE programmes thus gave an opportunity to health administrators to develop interdisciplinary competence in making more effective use of limited resources in the overall drive to provide health services to communities as a whole—the 'community-side' approach to health wherein the whole community is viewed as a patient in determining health problems and methods for dealing with them (National Institute of Health Administration and Education 1971a; Jungalwala 1969; World Health Organisation 1965).

### **Physicians**

In 1981 there were 268,712 registered physicians in the country (Government of India 1983c : 101). We have already noted in Chapter 5 that there are considerable variations in the doctor-patient ratios among states.

Data concerning number of public health specialists are available only for 1965. By that year the country had about 1200 physicians in active service with at least a diploma level education in public health (National Institute of Health Administration and Education 1967).

### **Para-medical Workers**

Over the last three decades, the government has also taken some major decisions concerning training and reorientation of the very large number of lower-level, para-medical health workers. Tables 5.5 and 5.6, discussed in Chapter 5, give an idea of the magnitude of the task undertaken. We discuss below how it has been and is being tackled in the context of four major health programmes : (1) The National Malaria Eradication Programme (NMEP); (2) The National Family Planning Programme; (3) The Multipurpose Workers Scheme; (4) The Community Health Workers (Guides) Scheme.

*Training Personnel for the NMEP*

The launching of the National Malaria Eradication Programme called for the training of as many as 150,000 workers to be spread over its 400 Units, in the preventive and curative aspects of malaria control. The categories of staff to be trained were Malaria Officers in charge of Units (covering one million population each), Senior Malaria Inspectors, Malaria Inspector (at the sub-unit level), 'Superior Field Worker' (seasonal supervisory staff for spraying-squads, numbering about 32 per Unit), and Field Workers (seasonal personnel forming spraying squads, numbering some 170 per Unit), and also senior staff at district and state levels.

Running a training programme for a health campaign which is believed to be the largest ever undertaken anywhere presented stupendous logistic obstacles as did the implementation of the programme itself: over a hundred million houses had to be sprayed with insecticide twice a year; each household had to be visited twice a month for surveillance; the workers had to collect blood slides from fever cases, get them examined and revisit malaria cases to offer radical treatment.

An enormous network of training institutions was set up (Krishnaswami 1961). The Malaria Institute of India [which later took over a wider role and became the National Institute of Communicable Diseases (NICD)] played a pivotal role in organising this training. It directly took up the training of key personnel at state and zonal (covering 2-3 Units) levels. It also provided training for officers of the six Regional Coordinating Organisations (RCO) of the NMEP and those of state level training institutions. District level officers were trained at RCOs. The training of junior level personnel, such as microscopists, laboratory technicians, health inspectors and district health inspectors, was conducted at the regional and state level institutions. The task of training basic health workers, superior field workers and field workers was assigned to PHCs.

*Training for the Family Planning Programme*

A training task of similar magnitude was encountered for the implementation of the National Family Planning Programme. The Family Planning Training and Research Centre was established in Bombay as early as in 1957 for training of specialised administrators. State governments also started setting up training centres in the same year. To give an impetus to these training efforts, the Union Government established peripatetic teams in the states in 1960. These teams were later designated Central Family Planning Field Units (Government of India 1968a).

With the launching of the Extended Family Planning Programme, designed to provide facilities at the doorstep of each household, workers

were required in large numbers to serve very small units of population. These workers had to be trained and orientated to use educational methods and skills to bring about a change in attitudes and practices among the people in regard to family size. The Union Government fully funded the establishment of a chain of training centres, one Regional Family Planning Training Centre for each 10 million unit of population, to train this vast army of workers.

According to the approved pattern for staffing in the family planning programme, a 1971 assessment placed the needs of manpower at 150,000 (Government of India 1968a).

As has been mentioned in Chapter 5, seven Central Training Institutes have also been set up which provide training for key district-level family planning workers. These are :

1. National Institute of Health and Family Welfare, New Delhi
2. All India Institute of Hygiene and Public Health, Calcutta
3. Family Planning Training and Research Centre, Bombay
4. Central Health Education Bureau, Delhi
5. Institute of Rural Health and Family Planning, Gandhigram
6. Institute of Public Health, Nagpur
7. Rural Health Training Centre, Najafgarh.

Training of Auxiliary Nurse Midwives (ANMs) is most vital for the Family Welfare Programme, especially its maternal and child health components. As mentioned in Chapter 5, there are 346 schools for training ANMs and 21 schools for training Health Assistants (Female) in the country in 1981 (Table 5.8).

With the launching of the Multipurpose Workers Scheme (MPW) in 1972, training for the family planning programme was integrated with that of various categories of workers for that scheme.

### *Training for the MPW Scheme*

The retraining of existing unipurpose workers as multipurpose workers is a colossal task. Till 1983, 14,159 Medical Officers of PHCs, 5,106 Block Extension Educators, 24,074 Health Assistant/Supervisor (Male), 11,186 Health Assistant/Supervisor (Female), 76,220 MPW (Male) and 51,148 MPW (Female) have been trained (Government of India 1983c : 105-10). In addition, large numbers of new workers have to be trained to meet replacement and expansion needs.

The problem is compounded by issues like lack of uniformity of pay-scales of various categories of unipurpose workers and very limited promotional avenues. The categories concerned were Basic Health Workers,

Vaccinators, Health Education Assistants (Trachoma) and Family Planning Health Assistants. The challenge of retraining became greater in the light of the fact that all these workers had varying educational backgrounds and varied periods of earlier training.

These problems arose much less in the case of female workers who were all ANMs. The problem in their case was that their number was only half that of male workers. A rapid expansion of their ranks posed a major problem (Government of India 1981e).

It is now proposed to have one male and one female multipurpose worker for every 5000-unit of population, as opposed to the earlier objective of one male worker for six to seven thousand and one female worker for ten to twelve thousand population. To achieve the ratio aimed at, it will be necessary to have as many as 2,20,000 male and female multipurpose workers (Government of India 1981e).

The programme also envisages the training of about 55,000 Health Assistants (HAs) (male and female), 5,500 Block Extension Educators (BEEs), 11,000 Medical Officers of PHCs, 400 District Education and Media Officers, about 800 key trainers and some 2,000 District-level Medical Officers (Government of India 1981e).

Before this vast and extensive programme could get under way, the big task of formulation of the content and method of training, both for reorientation and for fresh training, the setting up of institutions for training and providing training for trainers had to be tackled. Existing family planning institutions at various levels were strengthened and reorganised to enable them to take on the training of the workers and the Regional Family Planning Training Centres (RFPTCs) were renamed Regional Health and Family Welfare Training Centres (RHFWTCs).

The seven Central Family Planning Training Institutes now train the district level personnel for the MPW Scheme and the key trainers who will staff the RHFWTCs. The 46 RHFWTCs and some selected PHCs provide training for the block-level staff.

### *Training for the CHV Scheme*

The Community Health Volunteers (now termed Health Guides) Scheme has also posed a big challenge not only in logistic terms but also in terms of formulation of suitable training programmes for them (National Institute of Health and Family Welfare 1978b). The tackling of this task involved a basic reorientation of the outlook of the entire health organisation. For this the National Institute of Health and Family Welfare has been assigned the key role of providing orientation training to key administrators at district and state levels and training of trainers. Health Guides are being given a 3-month training course at PHC level by suitably trained staff.

By April, 1983, 4,019 PHCs have been covered with 2,27,503 Health Guides. This covers almost all the eligible states; states of Bihar, Punjab, and Rajasthan have discontinued the programme while Jammu and Kashmir, Kerala and Tamil Nadu and the union territory of Arunachal Pradesh have alternative schemes.

### **Nursing Personnel**

Previously, nursing training was available only up to diploma level. Now graduate and post-graduate courses in nursing have been introduced. Concurrently, efforts have been made to develop facilities for training of Midwives, ANMs and Lady Health Visitors. As can be seen from Table 5.5 in Chapter 5, their numbers have registered a steady though not speedy growth from the 1950s onwards.

### **Dentists and Pharmacists**

The number of dentists registered with the Dental Council of India rose from 3,290 in 1951 to 8,656 in 1982 (Government of India 1983c : 102). By 1980, the number of pharmacists registered with State Pharmacy Councils totalled 155,621, the highest number being in West Bengal followed by Maharashtra, Tamil Nadu and Andhra Pradesh (Government of India 1982b : 81).

### **Practitioners of the Indigenous (Traditional) Systems and Homoeopathy**

There are 232,247 qualified practitioners of ayurveda, 22,756 practitioners of unani, 18,190 practitioners of siddha and 109,493 practitioners of homoeopathy. Table 6.1 presents a state-wise distribution of qualified practitioners of ayurvedic, unani and siddha systems and homoeopathy. It once again demonstrates wide variations among different states in the number of registered practitioners of the various traditional systems of medicine and homoeopathy.

## **HEALTH PERSONNEL IN OTHER AGENCIES**

### **Private and Self-employed Sector**

It is a policy of the Government of India (Basu 1970) that health services ought to be available to every citizen, regardless of his/her ability to pay for them. However, often this is not the case, though, sometimes, even the

TABLE 6.1 : Statewise Number of Registered I.S.M. and Homoeopathic Practitioners as on 1-1-1981

Sl. No.	State/UTs	No. of I.S.M. practitioners			
		Ayurveda	Unani	Siddha	Homoeopathic
1.	Andhra Pradesh	14,202	2,975	—	3,617
2.	Assam	558	N.A.	—	1,020
3.	Bihar	31,056	3,147	—	18,959
4.	Gujarat	15,252	477	—	854
5.	Haryana	14,975	1,570	—	2,915
6.	Himachal Pradesh	5,278	448	—	—
7.	Jammu and Kashmir	256	149	—	—
8.	Karnataka	8,415	450	—	2,062
9.	Kerala	11,038	57	1,306	3,143
10.	Madhya Pradesh	16,764	114	—	3,208
11.	Maharashtra	26,329	417	—	7,756
12.	Orissa	2,250	1	—	2,927
13.	Punjab	17,238	582	—	5,470
14.	Rajasthan	15,899	710	—	2,577
15.	Tamil Nadu	7,145	1,010	16,884	15,272
16.	Uttar Pradesh	41,030	9,117	—	16,441
17.	West Bengal	1,691	—	—	21,537
18.	Chandigarh	—	—	—	258
19.	Delhi	2,871	1,532	—	1,477
Total		2,32,247	22,756	18,190	1,09,493

N.A. Not available.

Source : GOI, DGHS, *Health Statistics of India*, 1983.

poorest of the poor are able to procure the most sophisticated treatment once they are able to reach a health institution.

As the outreach of state health services is usually limited, a flourishing private sector has developed for those who pay for services. In fact, the state has been indirectly instrumental in promoting this private and self-employed sector. This has been through offering of highly subsidised education and training facilities and enabling physicians to build up private practice through their work in various capacities in state health institutions.

As a substantial proportion of the people able to pay for services live in urban areas, private practice has been largely concentrated in these areas, thus leading to a further distortion in the doctor-population ratio between urban and rural areas.

The lack of outreach of state health services has had important consequences. Combined with the widespread inability, specially in rural areas, to pay

for services, there is the growing demand for Western medicine (Benarji 1973d). This has created a market for a new type of healer, the so-called Registered Medical Practitioner (RMP)—often derisively called 'quacks'. Even though these RMPs have a very poor educational background and training, they have learnt to deal with some common ailments, using certain well-known drugs. As they usually belong to the local community and as they are able to provide some measure of relief, they have carved out a place for themselves. Since any healer who has practised for three years can register with an appropriate authority, RMPs have proliferated rapidly. However, as the records are not kept properly and not collated, it is impossible to keep track of their numbers. It was estimated in 1972 that there were over 250,000 RMPs in the country, most of them in the rural areas (Government of India 1972).

A reliable estimate of the number of physicians in the private and self-employed sector is also not available. According to one estimate (Institute of Applied Manpower Research 1968), based on the 1961 Census, 32 per cent of physicians were practising in this sector.

### **Voluntary Sector**

Following the accepted definition of the term, voluntary effort in health services implies initiative taken by a community to pool resources and organise programmes for the benefit of all. And going by this understanding, there are hardly any notable voluntary efforts in India in the field of health.

Most of the programmes operating in the country receive substantial support from outside the communities served by them. This may be largely a consequence of the power structure in an Indian village, and low standard of living and poverty of the general population (Banerji 1982; 54-70) which makes local contribution to voluntary effort an extremely difficult proposition. The state and missionary institutions are the main sources of support. Other sources include private enterprise and other autonomous organisations.

State support is given to voluntary organisations like the Indian Red Cross Society, St. John's Ambulance Association and St. John's Ambulance Brigades, Tuberculosis Association of India, All India Blind Relief Society, Hind Kusht Nivaran Sangh, Gandhi Memorial Leprosy Foundation and Central Bharat Sevak Samaj (Directorate-General of Health Services 1980 : 509-554).

In 1974, 1,149 hospitals having 73,886 beds came within the voluntary sector (Tong 1974 : 150). They accounted for 23 per cent of all hospital beds in the country. There are also 934 dispensaries in this sector which cater to 39,06,351 out-patients annually. It is significant that, of the 1,149

hospitals in the voluntary sector, 811 are run by missionary organisations; of the total beds capacity, 69,799 (i.e. 94 per cent) beds are in missionary hospitals.

Voluntary agencies in the family planning programme are described in Chapter 9. The difference between voluntary effort in the family planning sector and voluntary efforts in other health fields is that family planning efforts receive a 100 per cent grant from government for services carried out.

## **ANALYSIS AND EVALUATION OF MANPOWER DEVELOPMENT**

The adoption of a wide range of technology which is appropriate to the conditions prevailing in the country, acquiring a capacity to educate and train health personnel to meet the massive manpower needs of the health services and undertaking the task of bringing about a social orientation of the education and training of all categories of health workers, and of producing managerial physicians, who are capable of blending managerial and social skills within an epidemiological perspective, have been the outstanding features of health manpower development in India. Care has also been taken to relate education and training of personnel to the specific needs of the major programmes.

However, in this area also, there have been major distortions arising out of the power structure of the society. The distortion is most marked in the production of physicians who form the most critical element of the manpower structure.

Members of the privileged class get many benefits from the establishment of a medical college. It gives opportunities to their children to become physicians. They can also avail of specialist services from the attached hospital. It offers a number of jobs in high technology medicine. Physicians trained in medical colleges can also work in affluent countries—and even settle down there.

Incidentally, it is mostly the children of the privileged class who enjoy the advantage of the 80 to 90 per cent state subsidy for training physicians. They are better equipped to compete for admission because they have the advantage of education in 'superior schools'. Very few of the children of the poor can compete successfully for admission and fewer still can afford to meet even the 10 to 20 per cent of the cost which is not subsidised. Interestingly, even among the scheduled castes and scheduled tribes, who account for about a third of all the poor in the country, mostly those who belong to the very thin crust of the relatively well-off among them take advantage of the seats and the scholarships that are reserved for them (Banerji, 1982a : 125-29).

One of the ironies of India's medical education system is that community resources are utilised to train physicians who are not suitable for providing services in rural areas, where the vast majority of people live and where the need is so desperate (Banerji 1975a). By identifying itself with the highly expensive, urban- and curative-oriented Western system of medicine, the ethos of medical education in India actively encourages physicians to look down on existing facilities within the country, particularly in rural areas. Thus, physicians look for jobs abroad, causing the so-called brain-drain.

Foreign-trained physicians often demand high salaries and sophisticated and well-equipped medical institutions as the price for returning home. They create conditions under which the younger physicians try to follow their footsteps and aspire to go abroad and become superspecialists. Those unable to go abroad try to settle in private practice in urban areas, where the more qualified among them link their practice with honorary or full-time jobs in government-run hospitals and medical college.

One of the first major health decisions of the national government was to abolish the three-year post-matriculation diploma course in medicine. It is true that a majority in the Bhore Committee had favoured abolition of this course and emphasised 'on the production of only one and that the most highly trained doctor' (Government of India 1946c : 339-42). However, as pointed out earlier, the Committee had also made elaborate recommendations concerning the training of what it termed the 'basic doctor' and stressed that such training should include 'as an inseparable component, education in community and preventive aspects of medicine (Government of India 1946c : 349-55). While the licenciante course was abolished, the implementation of this second component has fallen far short of expectations.

As in the case of the abolition of the licenciante course, the administrators invoked the recommendations of the Bhore Committee to justify the setting up of the All India Institute of Medical Sciences (AIIMS) in New Delhi. As this prestigious institute met the needs of the more privileged sections, this recommendation was selectively implemented, while other more critical ones did not receive the attention they deserved. This motivation for setting up the institute distorted the objectives laid down by the Bhore Committee. The Bhore Committee had visualised a role for AIIMS in India akin to that of the Johns Hopkins University School of Medicine in the USA. The AIIMS has failed to live up to the leading role envisaged for it, viz. the training of teachers to meet the specific needs of Indian medical colleges, developing socially relevant medical curricula and promoting excellence in clinical practice and research (All India Institute of Medical Services 1979). The physicians educated under the conditions prevailing in AIIMS get alienated from the

country and aspire for working conditions available only in affluent countries (Government of India 1983d).

In such a social and political setting, it would be unrealistic to expect effective action to bring about a social orientation of medical education or indeed any programme for education and training of health workers. As pointed out above, both the Government of India and the Medical Council of India had taken steps to establish upgraded departments of preventive and social medicine. However, these departments have not been able to attract the quality of scholars who could fulfil the challenging role assigned to the departments and, in the course of the past three decades, most of these find themselves at the very bottom of the prestige hierarchy in medical colleges (Ramalingaswami and Neki 1971). The Shrivastva Committee (1974) has described the situation in the following words (Government of India 1975 : 38-39):

It is widely recognised that the present system of undergraduate medical education is far from satisfactory. Despite the recommendations made by numerous Committees and Conferences, improvements in the quality and relevance of medical education have been tardy. Although the setting up of Departments of Preventive and Social Medicine in the medical colleges over 15 years ago was a step in the right direction, this by itself has not met with significant success as it lacked scholarly foundations and the field practice areas have not been adequately prepared. The strangle-hold of the inherited system of medical education, the exclusive orientation towards the teaching hospital (five years and three months out of five years and six months of the total period of medical education being spent within the setting of the teaching hospital), the irrelevance of the training to the health needs of the community, the increasing trend towards specialisation and acquisition of postgraduate degrees, the lack of incentives and adequate recognition for work within rural communities and the attractions of the export market for medical manpower are some of the factors which can be identified as being responsible for the present day aloofness of medicine from the basic health needs of our people.

Reporting four years later, the ICSSR-ICMR Study Group (ICSSR-ICMR, 1981: 156-59) did not find the situation any better:

In spite of all expansion, doctors are still largely urban-based; and their distribution between different States is uneven. Standards have improved in some institutions and some sectors, but the average has declined considerably because of the proliferation of sub-standard institutions. The medical education system and the health care delivery

system have each gone their separate ways. There is little congruence between the role of the physician and the needs of society, little equilibrium between medical education and health care. Medicine is still regarded essentially as an enterprise of science and technology; the physician is the repository of all knowledge and dispensation; specialisation is the hall-mark of progress; and the training ground is the teaching hospital. Recent efforts to change this unhappy situation, to produce the 'right' kind of doctor and to give a community orientation to medical education, have yet to make any meaningful impact.

The training of nurses, which began almost simultaneously with that of doctors, did not, however, make an equal progress. The social status of the profession has remained low and it has not attracted enough girls in many parts of the country. The unsatisfactory service conditions of the nurses (long and irregular hours of work, poor remuneration, low hierarchical status, etc.) have also been a definite disincentive. The nursing profession, therefore, has expanded comparatively slowly.

On the whole, however, it may be said that the growth of the health care services in the country has been haphazard and unrelated to the needs of the poor and rural people who stand most in need of health care. Over-centralization of authority and compartmentalisation still continue to plague the services despite several efforts to bring about integrated comprehensive health care. The health personnel structure is still distorted; instead of a pyramid, it is more like an hourglass.

Still four years later, the Statement on National Health Policy bemoans the use of 'western models' in health manpower development and the existence of a 'cultural gap' between the people and providers of health services.

It should now be clear why there has been such a rapid growth in medical education in the country, without this making an adequate impact on the level of health care available to the broad masses of the population. The growth has generated its own contradictions. The market for physicians abroad has shrunk considerably; the market for private practice in urban areas in India is not enough to absorb the large number of physicians; positions in government health services are getting rapidly filled and there is growing unemployment among physicians (Government of India, 1983c : 130). This has compelled the Indian Medical Association to demand 'nationalisation' of all health services (Indian Medical Association, 1979).

As will be pointed out in subsequent chapters, manpower development has greatly suffered because of fundamental weaknesses in the formulation of different programmes. These weaknesses get reflected in training of personnel in such components as curricula, training of the trainers and the overall pedagogic approach. Because of these weaknesses, quite often entire training programmes become little more than ritualistic exercises.



## PART TWO

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### NATIONAL PROGRAMMES

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4

## ERADICATION/CONTROL OF COMMUNICABLE DISEASES

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COMMUNICABLE diseases account for a large number of deaths and considerable morbidity in India. Big national programmes have been developed to tackle the major ones—malaria, tuberculosis, leprosy, filariasis and trachoma. As a result of the National Smallpox Eradication Programme, India succeeded in totally eradicating this age-long scourge by 1972. Since then an Extended Programme of Immunisation (EPI) has been implemented on a nation-wide scale to provide protection against tetanus, diphtheria, whooping cough, poliomyelitis and tuberculosis.

### MALARIA

Malaria has been one of the most dreaded of diseases. It has taken the lives of great numbers and debilitated many more, making them susceptible to other infections and, in general, affecting human productivity. A 1935 study estimated that, in India, at least 100 million people suffer from malaria annually, about a million of them die of the disease, and an equal number die due to its after-effects (Sinton 1935).

At the inauguration of independence, malaria was regarded as India's most serious public health problem. As by then DDT and many synthetic anti-malarials had become available for launching effective public health measures against malaria, malaria control was declared a top priority national project (Government of India 1957 : 274). After examining the experience of some pilot projects, a big National Malaria Control Programme (NMCP) was launched in 1953 to cover all malarious areas, then involving a population of 200 million (Borkar 1961: 11).

The objective of the NMCP was to spray all the households within malarious areas periodically with DDT so as to bring transmission to a

level at which it ceases to be a public health problem. Therefore, an agency was to be maintained to hold down malaria transmission at that low level indefinitely. An NMCP Unit each was established to protect a population of about one million. In the very first year the response was so good that instead of 75 Units proposed, some 90 Units had to be allotted. In the following three years, the number of Units allotted rose to 136, 162 and 200, respectively (Government of India 1958).

The programme achieved phenomenal success. The number of malaria cases for every 100 persons visiting hospitals or dispensaries declined from 10.2 per cent in 1953-54 to 4.0 per cent in 1958-59 (Borkar 1961 : 12). This emboldened the planners of the programme to think in terms of a total eradication. The danger of mosquitoes developing resistance to DDT, the main weapon used in the programme, was an additional reason for embarking on the eradication programme. Further encouragement came from the propounding of a global strategy for eradication by the World Health Organisation.

The economic argument for this all-out drive was that, after the initial heavy expenditure there was expected to be a drastic reduction in costs. While the control programme was expected to cost about Rs. 270 million in the Second Five Year Plan, and Rs. 350 million during the Third Plan and thereafter continue to remain a heavy item of expenditure, 'the cost for the *eradication* programme was estimated to be Rs. 430 million in the last three years of the Second Plan and Rs. 580 million for the entire Third Plan with the annual expenditure becoming negligible thereafter' (Government of India 1973a).

The two major planks of India's National Malaria Eradication Programme (NMEP) were indoor residual spraying of all houses with DDT twice a year in appropriate seasons and fortnightly surveillance, followed by radical treatment of all detected cases. The programme was launched in 1958 and it was expected that the eradication would be completed by 1966. Using military terminology, the IMS officers, who headed the NMEP, worked out four phases for attaining the objective : Preparatory Phase, Attack Phase, Consolidation Phase, and Maintenance Phase. These phases were technically defined and a time limit was set for completion of each (Kalra 1960).

The Preparatory Phase was omitted in view of the grounds already covered during the NMEP. The NMEP was to cover all the households in the country. In 1958, 230 Units were established to launch the Attack Phase. Another 130 Units came into existence in the next year. Except for special geographical areas, the Attack Phase was to last for 3 to 4 years, depending on the endemicity of the disease (Kalra 1960).

The decision to interrupt the spray operation and enter into the Consolidation Phase was to depend on the assessment of the operation by

an independent assessment team on the basis of criteria defined by the WHO. A similar procedure was adopted before a Unit was allowed to enter the Maintenance Phase.

The NMEP was the biggest of the 'vertical' programmes of the country. Its entire cost was borne by the Union Government and all the states and union territories agreed to fall in step. A 'unified chain of command' was set up, from the Director, NMEP, down to the seasonal field workers, to ensure implementation of the central directives.

The organisational chart (Chart 7.1) of the NMEP shows the immense logistical effort necessary for its implementation. The NMEP Directorate and the six Regional Coordinating Organizations functioned under the Directorate General of Health Services. The Directorate supervised and coordinated the national campaign, including training, evaluation and research, laying down of field procedures and reviewing them, overseeing the quality of insecticide, compilation and analysis of results, and consolidation of reports.

The Regional Coordinating Organisations (RCOs) were in charge of two to four states each. They functioned as liaison bodies between the Union and states level organisations. Located at Baroda, Bangalore, Bhubaneswar, Hyderabad, Lucknow and Shillong, their function was to assist the states in matters concerning techniques of spraying, evaluation, supervision of Units, training of personnel and investigation of special problems, e.g. insecticide resistant mosquitoes. A senior malariologist headed each RCO and was assisted by a malariologist, an entomologist and ancillary staff.

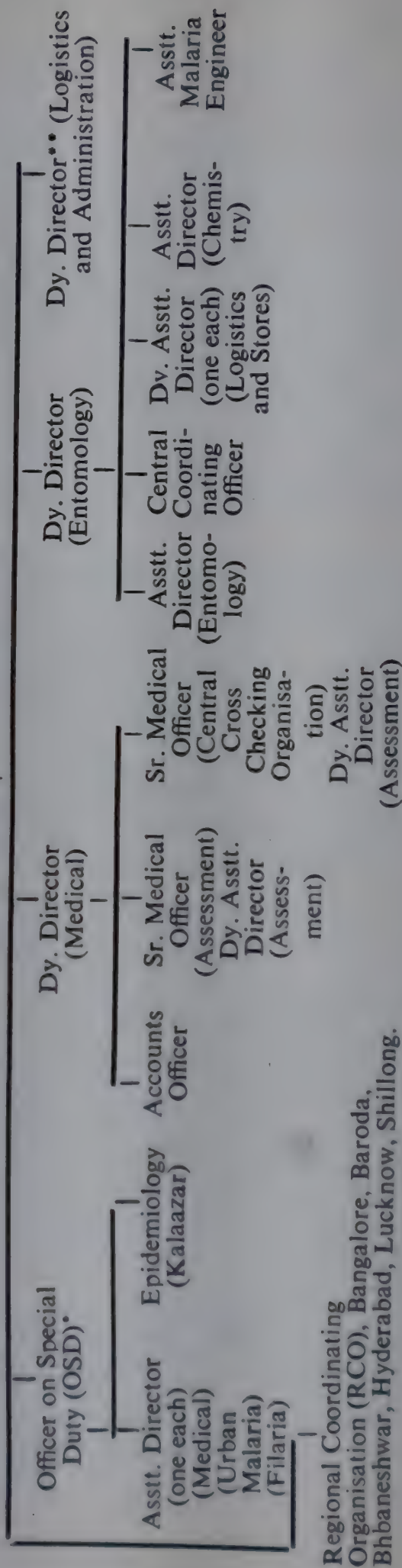
At the state level, the Assistant Director of Health Services (Malaria) (now Deputy Director of Health Services) headed each state malaria programme. He was responsible for planning, organisation and implementation, and also training and evaluation (Chart 7.2).

Under the State Malaria Officer are Zonal Malaria Officers, who supervise and offer support, usually to two to three NMEP Units.

At the Unit level, the Unit Officer (designated as the District Malaria Officer following the adoption of the Modified Plan), was assisted by ancillary staff. As mentioned earlier, each Unit covered a population of about one million. During the Attack Phase, the size of the supportive staff fluctuated with seasonal needs, as it involved recruitment of many temporary field workers (Chart 7.3).

When a NMEP Unit reached the Maintenance Phase, it was planned that medical and paramedical staff of the PHCs would be made responsible for conducting the surveillance work necessary for sustaining the Maintenance Phase for the populations covered by them. From 1972 onwards, one laboratory technician/assistant and one microscope each has been provided to the PHCs (Chart 7.4),

**CHART 7.1**  
**NATIONAL MALARIA ERADICATION PROGRAMME ORGANISATION CHART**  
 Director of the National Malaria Eradication  
 Programme and Deputy DGHS (Ex-Officio)



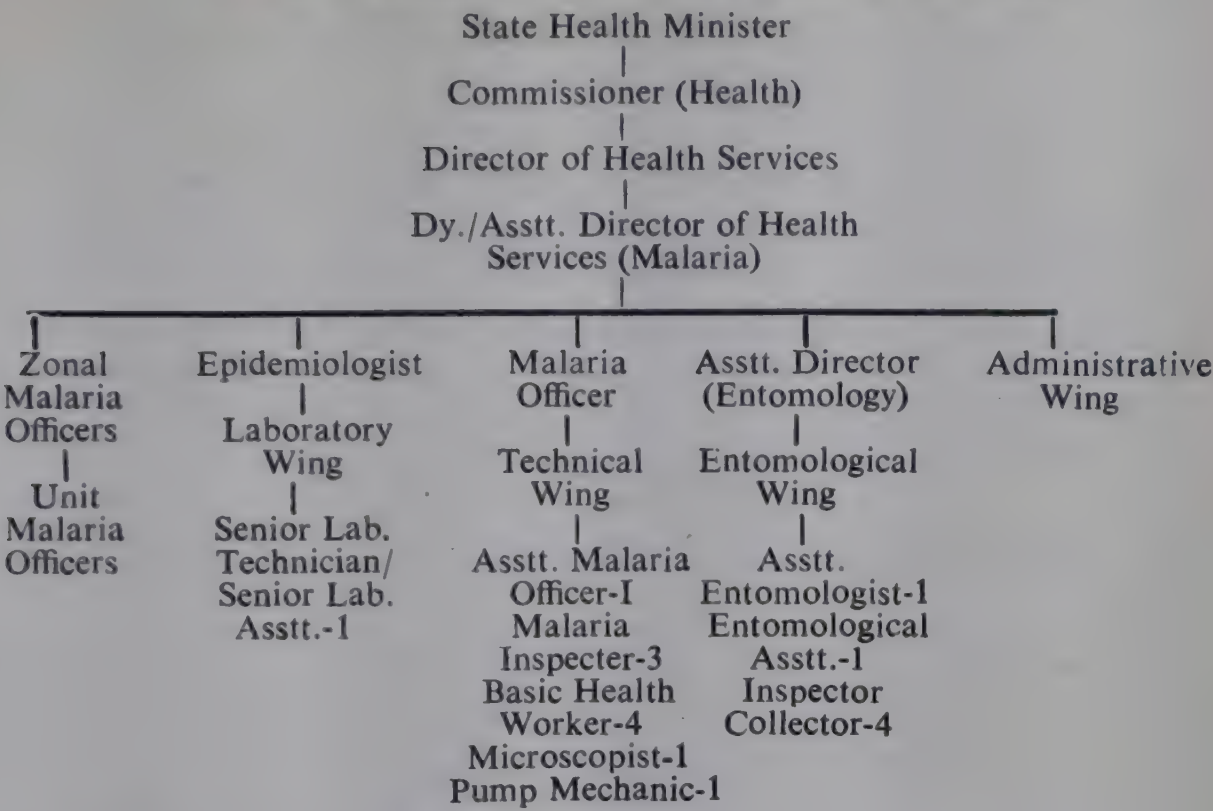
\* Following implementation of the modified Plan, the OSD has been made responsible for research.

\*\* Post has been transferred to DGHS temporarily.

Note : Chief Coordinator, *P. falciparum* Containment Programme along with other staff, work in the NMEP.

Sources : NMEP Directorate, Delhi.

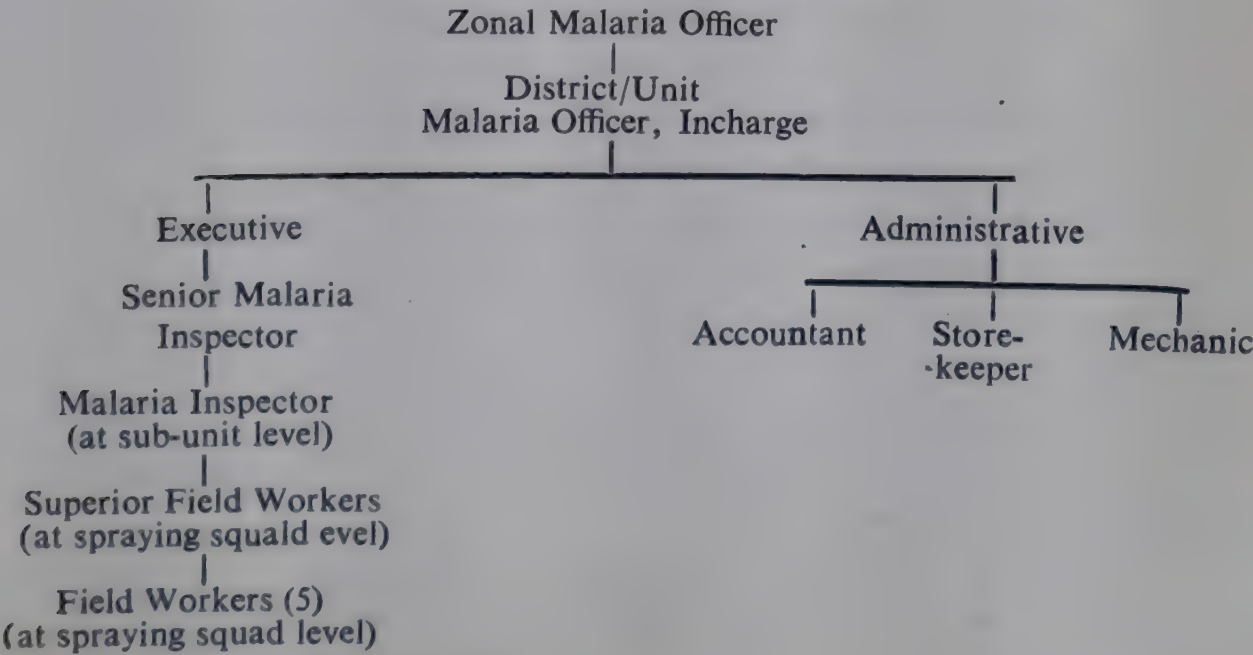
CHART 7.2  
NMEP ORGANISATION AT STATE LEVEL



*Note :* The state of Haryana is taken as an example.

*Source :* Directorate of Health Services, Haryana.

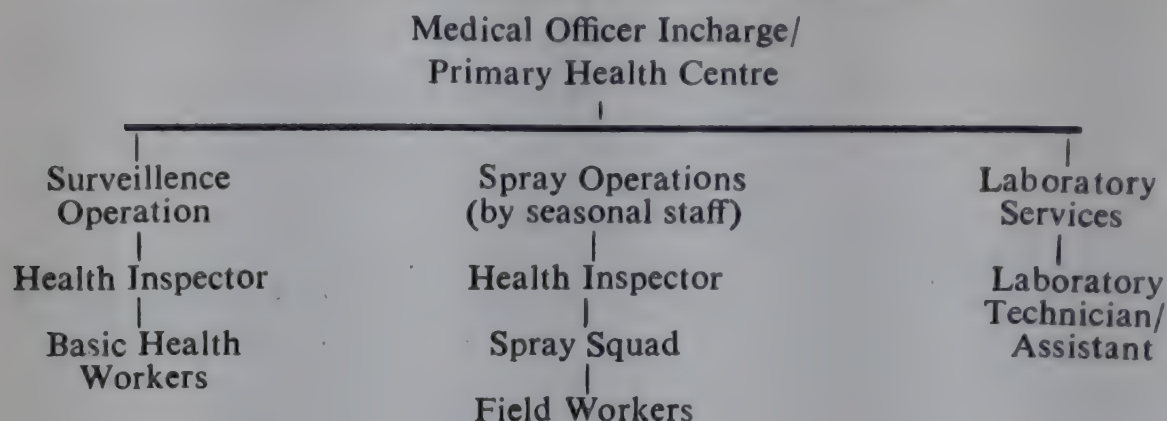
CHART 7.3  
ORGANISATION OF NMEP AT THE UNIT LEVEL  
DURING ATTACK PHASE



*Source :* Directorate of Health Services, Haryana,

## CHART 7.4

### NMEP ORGANISATIONAL PATTERN AT PHC LEVEL AT THE MAINTENANCE PHASE



Training for implementation of the NMEP has already been discussed in Chapter 6.

The immediate success of the eradication programme was even more spectacular than that of the control programme. From the estimate of 75 million cases in 1947, the incidence came down to 49,151 in 1961 (99.3 per cent reduction), and annual mortality came down to nil (ICSSR-ICMR 1981: 14). However, very serious snags developed in implementing the maintenance phase of the programme (ICSSR-ICMR 1981: 4-6).

How the entire epidemiological trend was reversed dramatically during the succeeding years is presented in Table 7.1. While hovering around an incidence of 100,000 in 1963-1965, there was a sudden spurt in incidence in 1966. Since then, there was a sustained increase, almost year after year, reaching a climax in 1971, when incidence shot up by the colossal factor of 13,000 per cent over 1961. Deaths due to malaria again began to be reported from 1974 and showed a sustained increase in later years. The fact that the number of deaths continued to increase even after case incidence rates declined much below the 1971 rate indicates a grave aspect of the problem: the large number of cases due to *P. falciparum* and the growing resistance of the parasites to antimalarials.

It turned out that, among other factors, adequate attention had not been paid to building a permanent health services system—the so-called health infrastructure—strong enough to carry on the malaria surveillance work effectively at the village level. This was responsible for a series of setbacks in the NMEP, resulting in the reversion, at a very considerable cost, of large segments of the maintenance phase population to consolidation or attack phases (Banerji 1975b).

The goal of eradication of malaria by 1966 remained unachieved. In fact, in the early 1970s, 40 per cent of the population had still to reach the Maintenance Phase. During the period 1969-73, less than 3 per cent of the additional population (9.4 Units) entered the Maintenance Phase (Banerji

TABLE 7.1 : Positive Cases in Malaria in India from 1961 to 1982

Year	Cases	Deaths
1961	49,151	0
1962	59,575	0
1963	37,306	0
1964	1,12,942	0
1965	95,667	0
1966	1,40,102	0
1967	2,70,214	0
1968	2,74,634	0
1969	3,47,975	0
1970	6,94,017	0
1971	13,22,398	0
1972	14,28,649	0
1973	19,30,273	0
1974	31,67,651	3
1975	51,66,142	99
1976	64,67,251	59
1977	47,40,900	55
1978*	41,44,385	74
1979*	30,64,697	196
1980*	28,96,000	207
1981*	26,79,795	170
1982* (Provisional)	21,60,447	172

\*Data collected after the implementation of Modified Plan of Operation—not strictly comparable with NMEP.

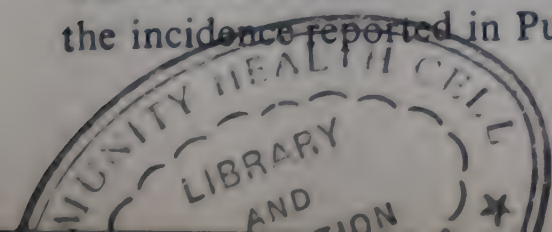
Source : GOI, DGHS, *Health Statistics of India*, 1983.

1975b). Consequently, the NMEP continued to drain huge quantities of scarce resources, making it more difficult to develop the total health services infrastructure (Banerji 1975b).

However, the extent of resurgence of malaria has not been uniform in all areas. There are vast tracts in Kerala, Tamil Nadu, West Bengal and some northern districts in Bihar which are no longer malaria endemic. Some 300 million people now live in areas which are either malaria free or where the endemicity is low.

Table 7.2 shows the statewide distribution of positive malaria cases during 1978, 1979 and 1980. Gujarat, Haryana, Orissa, Punjab, Maharashtra, Karnataka, Madhya Pradesh and the union territory of Delhi are among the major contributors to the incidence of malaria in recent years.

Significantly, except in the case of Orissa, occurrence of malaria deaths is more associated with regions than with extent of incidence of the disease. Assam, Meghalaya, Arunachal Pradesh, Nagaland, Manipur and Tripura, which account for the bulk of the malaria deaths, report only a fraction of the incidence reported in Punjab, which did not report a single malaria



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TABLE 7.2 : Positive Cases of Malaria : Statewise 1980, 1981 and 1982

Sl. No.	States/UTs	1980		1981		1982 (Prov.)	
		Cases	Deaths	Cases	Deaths	Cases	Deaths
1.	Andhra Pradesh	36,204	—	38,234	—	34,543	—
2.	Assam	65,705	47	58,106	49	59,575	27
3.	Bihar	71,954	4	61,611	5	44,246	—
4.	Gujarat	4,34,770	—	4,12,447	—	3,32,984	—
5.	Haryana	2,94,334	1	3,05,993	—	1,85,447	1
6.	Himachal Pradesh	49,044	—	85,534	—	48,708	—
7.	Jammu and Kashmir	5,423	—	5,703	—	7,042	—
8.	Karnataka	2,24,634	—	1,58,008	—	1,02,299	—
9.	Kerala	3,339	—	4,127	—	3,972	—
10.	Madhya Pradesh	3,91,364	25	3,20,742	16	2,28,982	19
11.	Maharashtra	1,91,911	5	1,10,552	—	84,814	4
12.	Manipur	2,646	3	1,265	2	2,342	5
13.	Meghalaya	19,010	12	16,703	1	16,912	5
14.	Nagaland	9,733	4	7,401	2	6,782	—
15.	Orissa	2,81,047	42	2,94,958	51	2,93,057	43
16.	Punjab	2,28,478	—	2,32,071	—	2,07,925	—
17.	Rajasthan	96,118	—	99,001	—	75,320	1
18.	Sikkim	44	—	40	—	49	—
19.	Tamil Nadu	73,381	—	71,517	—	65,797	—
20.	Tripura	6,364	5	6,182	13	10,596	17
21.	Uttar Pradesh	1,82,308	—	1,75,930	—	1,67,200	—
22.	West Bengal	22,219	3	29,068	4	25,208	21
23.	A and N Island	9,842	30	4,610	4	3,571	1
24.	Arunachal Pradesh	32,166	17	34,143	6	32,064	4
25.	Chandigarh	42,725	—	34,351	—	26,976	—
26.	D and N Haveli	3,676	—	3,198	—	1,963	—
27.	Delhi	68,227	—	62,415	—	46,530	—
28.	Goa, Daman and Diu	2,134	—	1,277	—	685	—
29.	Mizoram	17,779	—	17,361	4	24,670	8
INDIA		28,96,000	207	26,79,795	170	21,60,447	172

— Nil.

Prov. Provisional.

Source : GOI, DGHS, *Health Statistics of India*, 1983.

death during the three years. Again, the Andaman and Nicobar Islands with an incidence of merely 9079 in 1980 reported as many as 30 deaths.

The Annual Parasite Incidence (API), i.e., incidence for 1000 population covered per year, is a much better index for comparing the epidemiological situation of malaria in different states and union territories. The Annual Blood Examination Rate (ABER), i.e., the number of blood slides examined

TABLE 7.3 : ABER and API of States and Union Territories 1975, 1977 and 1979

Sl. No.	States/UTs	1975		1977		1979	
		ABER	API	ABER	API	ABER	API
1.	Andhra Pradesh	10.21	3.37	12.66	2.64	14.57	1.21
2.	Assam	9.00	8.20	9.05	5.92	9.39	4.15
3.	Bihar	3.31	1.67	3.02	0.64	5.26	1.24
4.	Gujarat	17.15	26.27	13.45	22.86	12.94	11.14
5.	Haryana	21.15	43.17	24.78	51.86	24.29	33.70
6.	Himachal Pradesh	8.27	5.00	14.88	18.53	15.75	12.20
7.	Jammu and Kashmir	8.96	9.39	12.98	14.71	13.20	4.56
8.	Kerala	2.18	0.07	4.11	0.22	2.71	0.16
9.	Madhya Pradesh	10.96	18.94	9.89	7.90	11.84	5.58
10.	Maharashtra	13.13	12.52	14.41	5.69	9.78	3.32
11.	Manipur	10.37	1.95	6.49	1.05	9.01	3.04
12.	Meghalaya	9.16	6.21	12.00	8.83	16.36	14.48
13.	Karnataka	13.08	13.30	14.00	12.88	13.09	8.82
14.	Nagaland	5.72	8.04	4.24	5.37	11.92	16.93
15.	Orissa	8.79	13.10	7.75	8.78	11.42	12.75
16.	Punjab	12.94	20.04	24.91	35.88	17.66	19.78
17.	Rajasthan	11.01	12.75	11.03	7.71	11.27	1.67
18.	Tamil Nadu	6.01	1.47	6.15	1.81	7.33	2.00
19.	Tripura	7.82	4.95	5.93	2.50	7.75	6.04
20.	Uttar Pradesh	6.87	4.15	7.54	4.49	7.92	1.49
21.	West Bengal	4.30	0.91	3.72	0.27	2.74	0.25
22.	A and N Islands	30.60	7.23	40.61	18.31	31.23	38.17
23.	Arunachal Pradesh	21.99	51.80	25.49	51.08	39.17	70.77
24.	Chandigarh	21.68	16.61	33.15	115.41	29.43	90.76
25.	Goa	9.06	0.80	6.97	2.51	10.80	0.30
26.	Delhi	10.35	7.20	18.48	23.71	22.69	16.56
27.	Pondicherry	7.17	0.40	10.16	0.61	18.64	0.66
28.	Sikkim	19.18	0.77	20.58	10.81	16.93	20.39
29.	Mizoram	—	—	10.58	14.80	27.69	44.17
INDIA		9.12	9.10	9.71	8.08	9.83	4.91

Source : GOI, DGHS, *Health Statistics of India, 1980.*

per 1000 population served per year, provides an estimate of the quality of surveillance work. Table 7.3 presents state- and union territory-wise ABER and API for the years 1975-79.

In 1979, among the bigger states, Haryana was at the top of the list, followed by Punjab and Gujarat. It can also be seen that the states and union territories located in the north-eastern region also have very high level of API. Table 7.3 also shows that APIs for states with large populations, such as Kerala, West Bengal, Bihar, Uttar Pradesh, Rajasthan and Tamil Nadu is 2.00 or less, again indicating the uneven resurgence of

malaria through the country. In passing, it may also be noted that low incidence of malaria in these six states cannot be attributed to the fact that they have health and malaria organisations which are superior to those which have an API of over 2. It is necessary to take into account factors other than mere anti-anapheline mosquito and anti-parasitic measures through use of insecticides and anti-malarial drugs. These other aspects (e.g., ecological aspects), have not received the attention they deserve.

Table 7.4 gives the percentage of *P. falciparum* cases as a percentage of the total malaria cases. Once again, it shows that *P. falciparum* cases are highly concentrated in the states and union territories of the north-eastern region. However, states like Madhya Pradesh and Maharashtra also show a high percentage of *P. falciparum* cases.

Because the NMEP continued to receive setbacks, it was recognised that there was need for an alternative strategy; that malaria could not immediately be eradicated once and for all. Based on the recommendations of a series of committees (Government of India 1970; Government of India 1974c; Government of India 1974d), a revised strategy, called the Modified Plan of Operations for Malaria Control (MPO), was put into effect in 1977 (Dhir 1971; Patnayak 1974). Its major objectives were :

1. To prevent deaths from malaria and reduce morbidity due to it.
2. To maintain the green and industrial revolution of the country by undertaking intensive measures.
3. To consolidate past gains.

Steps in this direction (Government of India 1981b: 370) included :

1. Reorganisation of malaria units to conform to geographical boundaries of the districts for better supervision by the Chief Medical Officer, who was entrusted with the responsibility of implementing the programme.
2. Linking residual insecticidal spray with incidence by continuing spraying in areas with an annual parasite index (API) of 2 or more.
3. Full surveillance, including focal spraying in areas with an API of less than 2.
4. Priority attention to *P. falciparum* infection. A special campaign has been launched in the northeastern and eastern and central areas with high incidence of this variety.
5. Assured supply of required quantity of anti-malarial drugs to various states through Community Health Volunteers (now Guides), Sub-centres, PHCs, panchayat agencies, school-teachers, etc. About 200,000 Drug Distribution Centres (DDCs) and Fever Treatment Depots (FTDs) were planned to be managed by voluntary organisations. A DDC merely distributes the drugs to fever cases and gets no honorarium. The FTDs

**TABLE 7.4 : Statewise Malaria Positive Cases Along with *P. falciparum* Cases Encountered Under National Malaria Eradication Programme, 1978, 1979**

Sl. No.	States/UTs	1978			1979		
		Incidence	API	% of <i>P. falciparum</i> to total cases	Incidence	API	% of <i>P. falciparum</i> to total cases
1.	Andhra Pradesh	71,723	1.60	13.3	55,575	1.21	19.45
2.	Assam	80,073	4.65	58.9	73,397	4.15	61.33
3.	Bihar	44,787	0.79	35.9	73,457	1.24	50.02
4.	Gujarat	3,99,254	12.50	2.7	3,61,119	11.14	3.21
5.	Haryana	7,08,098	55.99	0.8	4,36,984	33.70	0.86
6.	Himachal Pradesh	49,937	15.69	0.01	39,870	12.20	0.03
7.	Jammu and Kashmir	27,366	11.71	0.04	11,580	4.56	0.09
8.	Kerala	6,196	0.26	0.4	3,972	0.16	0.43
9.	Madhya Pradesh	2,61,740	5.69	27.1	2,70,819	5.58	32.52
10.	Maharashtra	2,15,733	3.54	15.9	2,04,596	3.32	18.63
11.	Manipur	3,655	2.39	65.7	4,234	3.04	58.43
12.	Meghalaya	9,974	8.26	82.3	17,342	14.84	84.02
13.	Karnataka	3,18,890	10.80	4.6	2,76,832	8.82	4.51
14.	Nagaland	8,424	11.90	58.9	12,019	16.93	62.83
15.	Orissa	3,74,591	16.44	72.1	3,10,952	12.75	72.55
16.	Punjab	4,67,558	31.66	0.3	3,25,227	19.78	0.41
17.	Rajasthan	1,54,549	4.90	5.6	83,394	1.67	5.61
18.	Tamil Nadu	76,227	1.63	1.9	95,009	2.00	3.25
19.	Tripura	12,918	7.25	63.00	10,769	6.04	76.64
20.	Uttar Pradesh	3,60,059	3.64	2.4	1,49,919	1.49	1.58
21.	West Bengal	11,209	0.26	3.6	11,909	0.25	5.58
22.	A and N Islands	2,810	16.43	9.5	7,481	38.17	10.51
20.	Arunachal Pradesh	30,127	62.43	35.0	35,596	70.77	20.19
24.	Chandigarh	38,671	110.50	0.01	35,453	93.76	0.03
25.	Coalfields	3,804	1.99	5.8	3,917	1.89	12.66
26.	Delhi	17,078	69.13	32.1	98,812	16.55	8.87
27.	Goa	450	0.50	2.4	270	0.30	0.37
28.	Pondicherry	302	0.53	2.0	378	0.69	1.59
29.	Sikkim	45	20.27	8.9	66	20.39	16.67
30.	Mizoram	12,361	28.22	66.6	19,345	44.17	62.42
31.	Dandakaranya Project	3,75,077	55.45	0.4	31,453	98.60	55.82
32.	Lakhadweep	33	0.85	0.0	15	0.38	0.37
33.	Dadra and N. Haveli	—	—	—	1,937	22.52	10.69
INDIA		41,44,385	6.80	13.24	30,64,697	4.91	18.22

Source : GOI, DGHS, *Health Statistics of India*, 1980.

are required to collect blood slides of all fever cases treated and they are often paid a small honorarium.

6. Multi-media publicity to arouse public awareness and participation.
7. A step up in research effort both in the laboratory and field. The government earmarked Rs. 20 million for basic and appropriate research in malariology.

Table 7.1 also shows the epidemiological situation before and after 1977, when the states started implementing the MPO. It is recognised that the recording system of the MPO is much less precise than that of the NMEP. This is because, in MPO, the programme is totally integrated with the district health administration and therefore suffers from the many defects that are found in district health administration. Also, because of involvement of DDCs and FTCs in treatment of fever/malaria cases, many cases are not recorded at all. Nevertheless, a yearwise comparison of the cases reported under the MPO shows that the incidence reported has come down 4,740,900 in 1977 to 2,160,447 in 1982. It may also be noted that, while the incidence of cases has come down by more than half during the implementation of the MPO, it has not been possible to bring down the number of deaths. Deaths have shown a sharp increase in 1979 and 1980, and the decline has not been very substantial in the subsequent two years.

In the Sixth Five Year Plan, the target set for the 1980-85 period is to bring down the API from 4.6 in 1981 to 2.7 and annual deaths from malaria down to nil (Government of India 1981b: 370). The Plan makes an allocation of Rs. 4000 million for malaria control. Eradication of the disease is now slated as a long-term objective. It is felt that substantial gains can be achieved only with a breakthrough in technology, continuous review of the existing programme, intense research, alternative methods and community participation where further efforts are required to control or minimise incidence of the disease.

## **TUBERCULOSIS**

In sharp contrast to the other communicable diseases control programmes, India's tuberculosis programme offers a very instructive case study of the development of an appropriate and obviously effective approach in dealing with an important national health problem within the prevailing constraints, including constraints of available resources.

Even a decade and a half after India become independent, the tuberculosis services for the population were grossly inadequate. There were less than 200 tuberculosis clinics, all located in urban areas, and many of them

were not properly equipped. Only 30,000 tuberculosis beds were available in the entire country (Government of India 1962 : 244-248).

Taking note of the limitations existing in the early fifties, a Mass BCG Campaign was all that could be implemented by way of an epidemiologically relevant tuberculosis programme (Barua 1981). Later, in 1955-58, to gain deeper insight into the problem, a national sample survey was conducted (Indian Council of Medical Research 1959). Among other findings, it revealed that 1.8 per cent of the population suffered from radiologically active tuberculosis, of whom about one-fourth were infectious and that, contrary to the then prevailing impression, the prevalence of the disease was similar in rural and urban areas. It is estimated that in 1983 there were nearly 10 million people in the country who had radiologically active pulmonary tuberculosis, of whom 2.5 million were infectious.

A major breakthrough was achieved in 1958 when researches at the Tuberculosis Chemotherapy Centre, Madras (now the Tuberculosis Research Centre), revealed that, both clinically and epidemiologically, treatment of tuberculosis patients at home is as efficacious as treating them in sanatoria (Tuberculosis Chemotherapy Centre, 1959). Some valueable epidemiological and operational studies were also conducted at the Tuberculosis Research Unit of the Indian Council of Medical Research (Frimodt-Moller 1964) and at the New Delhi Tuberculosis Centre (Pamra, 1981). Making use of these findings and generating additional data in certain key areas, the National Tuberculosis Institute (NTI) at Bangalore developed a series of interdisciplinary operational research studies which involved participation of health administrators, epidemiologists, clinicians, microbiologists, public health nurses, laboratory scientists, social scientists, statisticians and engineers (Chakraborty 1979). This led in 1962 to the formulation of a nationally applicable, socially acceptable and epidemiologically effective National Tuberculosis Programme (NTP) for India (Banerji 1971b).

The basic postulates of India's NTP were : (1) as a very large number of patients were already actively seeking treatment at various health institutions, top priority must be given in the national programme to providing services to those who have a felt need for it, i.e. it should be a felt-need-oriented programme; and (2) as those who had a felt need sought treatment at health institutions, tuberculosis services should be given as an integral part of the health services provided at different institutions.

Hence, the programme was based on the following major premises (Banerji 1971b) :

1. Cases of tuberculosis can be diagnosed at rural health institutions by microscopic examination of sputum of those who complain of chronic cough.

2. Domiciliary treatment of the diagnosed cases from nearby health centres can give reasonably satisfactory results.
3. Facilities for diagnosis and treatment of tuberculosis cases, including keeping of certain basic records, can be developed within rural health institutions by making marginal investments.
4. Services of specialised tuberculosis institutions at the higher levels (tuberculosis clinics, sanatoria, hospitals having chest surgery units, etc.) can be made accessible to the rural health institutions. This will enable them to refer the more complicated cases to these institutions for getting additional facilities for diagnosis and treatment.
5. At the district level (covering a population of about one and a half million), provision can be made for a District Tuberculosis Centre. Besides providing referral facilities to the peripheral institutions within the district, such a centre could have trained staff to carry out the additional functions of planning, organisation, coordination, training and supervision, of all tuberculosis work at various institutions within the district. The District Tuberculosis Centre could also maintain a Tuberculosis Case Register for the entire population within its jurisdiction.
6. As a step towards integration of the BCG Campaign with the general health services, BCG teams can be attached to District Tuberculosis Centres so that, apart from doing inoculation work, these teams can participate in other activities of the programme, for instance, retrieval of treatment defaulters.
7. There could also be a State Tuberculosis Centre, covering, on an average, a population of about 30 million. Meeting training requirements and evaluation of the tuberculosis programme in the state could be two of its special functions.

How workers at the National Tuberculosis Institute (NTI), Bangalore, used various research tools, including operational research and systems analysis, to work out in great detail the various components of India's National Tuberculosis Programme (NTP) (Nagpaul 1967), has already been mentioned in Chapter 6. The NTI was also involved in training personnel for implementing the programme. These included staff of the State and District Tuberculosis Centres from different parts of the country. The NTI can also claim the distinction of being the first to adopt the team training technique for this purpose (Chandrasekhar 1981). For training the personnel of a District Tuberculosis Centre, for instance, the team leader—the District Tuberculosis Officer—was trained to promote team work for implementing the NTP through coordinated activities with other members of his team, namely, the Treatment Organiser, the Statistician, the X-ray Technician, the Laboratory Technician, and the BCG Team Leader. Con-

currently, the NTI was assigned the task of monitoring the implementation of the programme.

The National Tuberculosis Institute was also associated with a major study in experimental epidemiology which provided strong evidence that BCG inoculation has little protective value against tuberculosis among adults (Baily 1980). This research has attracted the attention of scholars all over the world and, as was the case with the findings of the Tuberculosis Chemotherapy Centre, Madras, its findings have had a far-reaching impact on tuberculosis programmes in many countries (WHO 1980).

By 1982, there were 329 District Tuberculosis Centres and 17 State Tuberculosis Demonstration Centres, 353 Tuberculosis Clinics and 44,502 sanatoria beds in the country. Table 7.5 gives state-wise distribution of these institutions. All the big states have set up State Training and Demonstration Centres and all their districts are covered by District Tuberculosis Centres. In terms of tuberculosis clinics, West Bengal and Tamil Nadu together account for nearly half the number for the country as a whole.

The sheet anchor of the NTP is the District Tuberculosis Centre which is required to organise tuberculosis work in some 40-60 health institutions (e.g. PHCs, dispensaries and hospitals) in the entire district as an integral part of the general health services. The NTP was thus designed to sink or sail with the general health services.

Due to preoccupation of the administration with the MNRP and family planning programme, the general health services and, along with this, the NTP, had not received adequate attention for a considerable time. However, when the new Union Government came into power in 1980, it launched what is termed as the Prime Minister's Twenty Point Programme (Gandhi 1982) which gives priority to meeting certain special needs of the population. Family planning, primary health care (PHCs, Sub-centres, Multipurpose Workers and Community Health Guides), prevention of blindness and tuberculosis and leprosy control programmes, have been included in the Programme and its implementation is being monitored by high-level committees within the Union and state governments (Government of India 1983b).

Because of the Twenty Point Programme, the NTP is now receiving special attention. It is getting further strengthened because the primary health care services are also being strengthened. For the first time, governments have come out with more detailed information about the actual functioning of the NTP. Earlier, the reports were confined to tables (as in Table 7.5) which merely spelled out the state-wise expansion of the various institutions. Table 7.6 shows the state/union territory-wise distribution of targets laid down for detection of tuberculosis cases and actual achievements for the year 1983-84. It may be mentioned that for the year 1982-83,

TABLE 7.5 : Facilities Available for Diagnosis and Treatment of TB Patients  
1982

Sl. No.	States/UTs	TB demonstration centres	District TB centres	Other TB clinics	TB beds
1.	Andhra Pradesh	1	22	27	2,699
2.	Assam	1	10	8	799
3.	Bihar	2	25	11	1,799
4.	Gujarat	1	19	6	3,388
5.	Haryana	—	9	6	275
6.	Himachal Pradesh	—	8	10	643
7.	Jammu and Kashmir	1	9	5	705
8.	Karnataka	1	19	5	3,445
9.	Kerala	1	10	12	2,199
10.	Madhya Pradesh	1	45	2	1,699
11.	Maharashtra	1	26	27	7,249
12.	Manipur	—	2	1	110
13.	Meghalaya	—	2	—	304
14.	Nagaland	—	1	2	100
15.	Orissa	1	13	2	801
16.	Punjab	1	10	6	921
17.	Rajasthan	1	26	2	2,018
18.	Sikkim	—	1	4	90
19.	Tamil Nadu	1	15	41	2,609
20.	Tripura	—	2	—	50
21.	Uttar Pradesh	1	56	20	3,437
22.	West Bengal	1	16	102	5,948
<i>Union Territories</i>					
23.	A and N Islands	—	1	1	67
24.	Arunachal Pradesh	—	1	4	182
25.	Chandigarh	—	1	—	10
26.	Dadra and N Haveli	—	—	—	—
27.	Delhi	1	1	10	1,539
28.	Goa, Daman and Diu	—	1	3	976
29.	Lakshdweep	—	—	—	—
30.	Mizoram	—	1	2	62
31.	Pondichery	—	1	3	178
Total		17	353	329	44,502

Source : GOI, DGHS, Health Statistics of India, 1983.

TABLE 7.6 : Targets Laid for New TB Cases Detection During 1983-84 and Achievements

Sl. No.	States/UTs	Targets for the year 1983-84	Achievements during 1983-84	Percentage achievement
<i>States</i>				
1.	Andhra Pradesh	87,500	61,594	70.40
2.	Assam	37,500	15,517	41.37
3.	Bihar	93,750	91,260	97.34
4.	Gujarat	1,06,250	1,02,019	96.00
5.	Haryana	25,000	19,518	78.00
6.	Himachal Pradesh	12,500	14,024	112.19
7.	Jammu & Kashmir	15,000	8,214	54.70
8.	Karnataka	75,000	48,009	64.00
9.	Kerala	43,750	29,572	67.50
10.	Madhya Pradesh	87,500	93,617	106.90
11.	Maharashtra	1,37,500	2,05,792	149.50
12.	Manipur	3,750	1,585	42.20
13.	Meghalaya	1,500	1,279	85.20
14.	Nagaland	625	705	112.80
15.	Orissa	37,500	23,590	62.90
16.	Punjab	31,250	34,596	110.70
17.	Rajasthan	37,500	38,129	101.60
18.	Sikkim	1,250	621	49.68
19.	Tamil Nadu	87,500	93,437	106.70
20.	Tripura	1,250	1,468	131.80
21.	Uttar Pradesh	1,87,500	1,99,949	106.60
22.	West Bengal	87,500	74,458	85.00
<i>Union Territories</i>				
23.	Arunachal Pradesh	875	1,187	135.60
24.	Goa Daman & Diu	2,500	2,819	112.70
25.	Mizoram	625	1,027	164.30
26.	Pondicherry	3,750	4,110	109.60
27.	A and N Islands	875	576	65.80
28.	Chandigarh	1,875	1,982	105.70
29.	D and N Haveli	250	301	120.40
30.	Delhi	40,625	37,595	92.50
31.	Lakshadweep	250	150	60.00
Total		12,50,000	12,08,880	96.71

Source : Tenth Joint Conference of Central Councils of Health and Family Welfare  
July, 1984 (Agenda Papers).

not only was it targeted to detect as many as 1,000,000 new cases, but an even more significant fact is that 108 per cent of target has been achieved. For 1983-84, the target was to detect 1,250,000 new cases, which also included a target for 2,443,400 sputum examinations of those who visit PHCs for treatment of chest symptoms. Both the Union Government and state governments are now required to provide reports listing the names of District Tuberculosis Centres where X-ray equipment has not yet been installed, with an explanation for non-installation (Government of India 1984c : 112-18).

The issue of 'treatment default' which often emerges after detection of a case has been discussed in Chapter 15.

It may be noted that it has been possible to take these specific steps to strength the NTP because care was taken to develop an epidemiological approach to the formulation of a community health programme. This methodology, developed for formulating a programme which is nationally applicable, socially acceptable, and epidemiologically effective, can be used as effectively to strengthen community health programmes against malaria, leprosy, filariasis, blindness and other such problems. It has, therefore, been described in some detail later in this chapter.

### Performance of NTP During 1983 and a Comparison with the Two Previous Years

The June 1984 issue of the *NTI Newsletter* (National Tuberculosis Institute 1984) offers, for the first time, a systematic account of the impetus given to the NTP as a result of its inclusion in the Twenty-Point Programme :

#### *Implementation and Reporting*

Of the 420 districts in the country, District Tuberculosis Programmes (DTPs) have been implemented in 354 districts. Most of the remaining districts are either newly formed districts where the programmes have to be implemented or are situated in the remote or hilly areas where the population is small and scattered. Table 7.7 gives the performance in implementa-

TABLE 7.7 : Implementation and reporting

Total Districts	Functioning DTPs*	DTP* reports		PHIs	
		Received	Analysed	Implemented	Reported %
420	354	1,239	1,158	11,692	73

\*DPT : District Tuberculosis Programme.

Source : National Tuberculosis Institute, Bangalore.

tion and reporting by District Tuberculosis Centres (DTCs) and Peripheral Health Institutions (PHIs).

While 1,416 quarterly reports were expected from 351 districts, 1,239 (88%) were actually received in time. Most of the reports could be included for analysis as there were no gross errors. Nearly 12,000 Peripheral Health Institutions (PHIs) situated mainly in rural areas have been involved to function as X-ray Centres or Microscopy Centres or Referring Centres. Of these, 73 per cent have submitted at least one monthly report on TB casefinding and treatment during each quarter of the year to the respective District TB Centres (DTCs). Reporting by PHIs has improved substantially during the year.

### Casefinding Activities During 1981

Tables 7.8(a) and 7.8(b) present the casefinding activities in the DTCs during 1983.

TABLE 7.8 : Casefinding Activity During 1983

(a) Examinations done :		DTCs	PHIs	Total	Average per DTP
X-ray Examinations	New	12,14,346	6,14,306	18,28,551	6,317
	Old	3,95,561	1,24,512	5,20,073	1,796
	Total	16,09,907	7,38,817	23,48,724	8,113
Sputum Examinations	New	8,41,894	13,30,487	21,72,681	7,505
	Old	3,09,065	1,29,910	4,38,475	1,516
	Total	11,50,959	14,60,597	26,11,556	9,021
(b) New patients diagnosed :		DTCs	PHIs	Total	Average per DTP
(i) Sputum positive		1,16,018	93,947	2,09,965	725
(ii) Sputum negative		3,45,915	2,66,061	6,11,976	2,114
(iii) Extra pulmonary		36,075	20,668	56,743	196
Total		4,98,008	3,80,676	8,78,684	3,035

Source : National Tuberculosis Institute, Bangalore.

On an average, 6,317 new X-ray examinations and 7,505 new sputum examinations were done during the year in each district. From among these, 725 new sputum positive and 2,114 new sputum negative cases were diagnosed.

It will be observed that of the total new sputum examinations done (i.e. about 22 lakhs) in the whole programme, about 61 per cent are done at the PHIs. However, of all the sputum positive cases diagnosed, 45 per cent are diagnosed at the PHIs. Based on the above available data, three basic questions on casefinding need examination:

1. Is there a scope for improvement of casefinding?
2. If improvements are indicated, should they be effected at DTCs or PHIs?
3. If improvements are indicated at either, should they be about quantity or quality of examinations done and cases diagnosed?

It is observed from Table 7.8b that during 1983, on an average, 2839 cases were diagnosed in a district. Of those cases, 725 were sputum positive. From carefully conducted field research studies it has been estimated that in an average district, about 2,000 sputum positive cases can be diagnosed during one year. Thus, the casefinding performance was of the order of about 36 per cent of the potential. There is, therefore, a considerable scope for improvement in casefinding.

Casefinding is done at the DTCs from among the outpatients. In general, all new outpatients at DTCs are offered X-ray examination and patients with suspect shadows on X-ray offered sputum examination. As such, unless efforts are made to increase the outpatient attendance, casefinding can not be considered to be functioning at an optimal level at the DTC.

It has been determined that each Primary Health Centre (PHC) can, on an average, examine about 600 sputa per year (This is also the target that has been laid down by the Directorate General of Health Services, Government of India). The actual achievements are less than half the number. However, the range is enormous, varying from almost nil in some districts to nearly 10,000 during the year in a few districts (each with about 20 PHCs). Thus, one of the main bottlenecks is the inadequacy of sputum examinations by the PHCs.

### *Treatment Activities During 1983*

**TABLE 7.9 : Treatment of Tuberculosis Patients**

	DTCs	PHIs	Total	Average per DTP
(i) Patients put on treatment	5,17,387	4,93,284	10,10,671	3,491
(ii) On treatment at the end of year	4,86,273	5,62,301	10,48,574	3,620

*Source :* National Tuberculosis Institute, Bangalore.

Tables 7.9 and 7.10 show that most of the cases that are diagnosed are also put on treatment and about 30 per cent that start treatment also complete at least 12 months of treatment. An operational study on the treatment compliance by patients has shown that under optimal conditions of facilities as available in the DTPs (i.e. if all procedures as recommended

TABLE 7.10 : Analysis of Cohort of Sputum Positive TB Patients Diagnosed During the Period 1-7-1980 to 30-6-1981  
(From the Annual Report of 1982)

Annual reports		Patients included in the cohort	Per cent of patients	
Received	Analysed		Starting treatment	Making 12 or more collections
130	85	43,488	93.6	28.5

in the Manuals are followed) treatment completion rate would be of the order of about 45 per cent.

Thus, the gap is much greater in casefinding than in treatment. This indicates that while treatment activities should in no way be neglected, casefinding activities need greater efforts towards improvement.

*Comparison Between the Casefinding Performance During 1983 and the Previous Two Years*

Table 7.11 presents the comparison of performances in casefinding (average per DTP) by sputum microscopy during 1981, 1982 and 1983. Part (A) shows the performances for the entire district (i.e. DTC and PHIs) and Part (B) for PHIs only. It is seen that both the average numbers of sputa examined and of cases diagnosed per year have shown substantial increases from 1981 to 1983. Of the 4,493 sputum examinations done in 1981, only 1,806 (40%) were done at the PHIs. In 1983, of the 7,505 sputum examinations done in a district, 4,567 (61%) were done by PHIs. Subtracting the annual performances of sputa examined and cases diagnosed in the PHIs from the respective figures of the total district, it can be seen that the numbers of sputa examined at DTCs have shown only a small increase while those examined at PHIs have shown a substantial increase over the 1981 figures i.e. 49 per cent in 1982 and 79 per cent in 1983.

It is also seen that during 1981, of the 1,806 sputa examined, 186, i.e. nearly 10 per cent, were positive, whereas the positivity rates during 1982 and 1983 were 9 per cent and 7 per cent, respectively. It is possible that during 1981 much of the sputum samples were obtained from patients with symptoms reporting at the PHIs, whereas in the subsequent years large proportions of sputum samples were collected from the symptomatics as elicited by MPWs in the patients' houses resulting in lower positivity rates in later years. This could also indicate that the quality of sputa collected (i.e. namely, appropriate elicitation of symptoms and identification of a true symptomatic and, collection of a good sample of sputum) need improvement.

**TABLE 7.11 : Performance of DTPs and PHIs During the Last 3 Years viz., 1981, 1982 and 1983**

(Average per DPT)					
	1981	1982	1983	% increase in the year over the previous year	
				1982	1983
(A) <i>DTPs</i>					
Sputum Exams. done for new outpatients	4,493	5,585	7,505	24.3	34.4
New TB patients diagnosed:					
(a) Pulmonary:					
(i) Sputum positive	536	620	725	15.7	16.9
(ii) Sputum negative	1,479	1,808	2,114	22.2	16.9
(b) Extra-pulmonary	165	187	196	13.3	4.8
Total	2,180	2,615	3,035	20.0	16.1
(B) <i>FHIs</i>					
Sputum Exams. done for new outpatients	1,806	2,690	4,587	48.9	78.5
New TB patients diagnosed:					
(a) Pulmonary:					
(i) Sputum positive	186	245	325	31.7	32.6
(ii) Sputum negative	497	676	918	36.0	35.8
(b) Extra-pulmonary	45	58	72	28.9	24.1
Total	728	978	1,314	34.3	34.4

Source : National Tuberculosis Institute, Bangalore.

## LEPROSY

There do not appear to be any reliable epidemiological data concerning leprosy in India. Because of this it has not been possible to develop an epidemiological approach to the problem. The latest estimate is that, in a population of 372 million (1971 Census) among whom leprosy is known to be endemic, estimated leprosy cases numbered 3.2 million. About 25 per cent of the cases suffered from deformities; 400,000 were socio-economically dislocated and approximately 200,000 had become beggars. About 15 per cent of the cases were children up to 14 years of age (Directorate General of Health Services 1981b : 11). The states where leprosy is widespread are Tamil Nadu, Andhra Pradesh, West Bengal, Bihar, Maharashtra, Orissa and Karnataka. They account for 91.5 per cent of the cases in the country (Table 7.12).

During the First Five Year Plan, the Union Ministry of Health appointed a committee to study measures for the control of leprosy (Government of India 1955). This committee estimated the total number

**TABLE 7.12 : Cases Estimated and Treated Under National Leprosy Eradication Programme, 1982-83.**

Sl. No.	State/Union Territory	Prevalence rate/1000	Estimated No. of Leprosy cases 1971 Census in lakhs	Cases under treatment at the end of March 1983
1.	Andhra Pradesh	14.45	6.28	4,77,169
2.	Assam	0.82	0.12	11,516
3.	Bihar	6.02	3.39	2,15,836
4.	Gujarat	2.02	0.54	65,426
5.	Haryana	0.10	0.10	757
6.	Himachal Pradesh	4.34	0.15	4,669
7.	Jammu and Kashmir	1.08	0.05	4,404
8.	Karnataka	5.94	1.74	1,42,506
9.	Kerala	3.51	0.75	46,200
10.	Madhya Pradesh	0.77	0.32	1,07,108
11.	Maharashtra	5.55	2.80	3,55,595
12.	Manipur	5.59	0.06	3,485
13.	Meghalaya	5.93	0.06	1,331
14.	Nagaland	9.69	0.05	1,976
15.	Orissa	10.80	2.37	1,84,469
16.	Punjab	0.15	0.02	3,435
17.	Rajasthan	0.39	0.10	7,979
18.	Sikkim	7.66	0.016	189
19.	Tamil Nadu	19.01	7.83	5,50,574
20.	Tripura	6.43	0.10	2,123
21.	Uttar Pradesh	1.90	1.63	3,59,184
22.	West Bengal	8.53	3.80	1,77,031
23.	Pondicherry	40.25	0.19	6,383
Total		5.93	32.567	27,38,526

Source : GOI, DGHS, *Health Statistics of India, 1983.*

of cases at 15 million. At that time there were 152 leprosy homes and hospitals with about 19,600 beds and about 1,200 outdoor clinics in the country. On the recommendation of the committee, the Government of India launched what is now called the National Leprosy Control Programme (NLCP) in 1954-55. Under the programme, cases were detected in the endemic population through a house to house survey of the population by physical examination. The treatment of the cases was in the form of oral administration of Dapsone. These services were provided through a network of Leprosy Subsidiary Centres. Each Subsidiary Centre covered a population of 60,000 to 80,000. Each of them had two medical officers and four para-medical workers in addition to ancillary staff (Government

of India 1955). This strategy was continued during the Second Five Year Plan.

In 1963, a review by the Director, National Leprosy Control Programme (Dhir, 1969), revealed that 300 million out of 439 million (1961 census) population of the country were exposed to risk of infection with leprosy and that there were 2.5 million leprosy cases. The states were grouped into high, moderate and low endemic zones depending upon the estimated endemicity. During this period, for populations with endemicity of 10 or more per thousand, the Leprosy Subsidiary Centres were reorganised and redesignated as Leprosy Control Units and their population coverage was increased to 150,000. Each Unit was manned by a physician and 11 para-medical workers and other ancillary staff. For populations with an endemicity between 5 and 10 per thousand, the concept of Survey Education and Treatment Centres (SET Centres) was introduced to integrate leprosy work with that of various institutions providing general health services, like primary health centres, dispensaries and hospitals. A SET Centre provides leprosy services to 20,000 to 25,000 population through a trained para-medical worker (Dhir 1969).

In the Fourth Plan period the magnitude of the problem was reassessed. The population living in endemic districts was 372 million as per the 1971 census. The case load was estimated at 3.2 million (Directorate-General of Health Services 1981b). During this Plan, the National Leprosy Control Programme was categorised as a centrally sponsored scheme with 100 per cent grant-in-aid to the states for its expansion and implementation. The population coverage by each Control Unit was increased to 300,000 with one medical officer, one non-medical supervisor, 15 para-medical workers and other ancillary staff. The endemic population coverage up to the end of the Fourth Plan period was 131 million out of the estimated 372 million.

During the Fifth Plan several new components were added to the scheme (Directorate General of Health Services 1981). These were Urban Leprosy Centres, Temporary Hospitalisation Wards, Reconstructive Surgery Units, District Leprosy Units and Regional Leprosy Training-cum-Referral Institutions.

According to the Directorate General of Health Services (1981b), during 1979-80 and 1980-81 some SET Centres and Leprosy Control Units with their workers were merged into the Multipurpose Workers' Scheme. As a result, it is claimed, there was a setback to the programme and the tempo generated during the first three years of the Fifth Plan was lost.

Table 7.13 gives the number of components of each type in the NLCP in 1981-82. State-wise distribution of these are given in Table 7.14. The performance of the programme in terms of population at risk, cases

TABLE 7.13 : Components of the Leprosy Control Programme 1981.

Components	Number
1. Leprosy Control Units	353
2. Upgraded Urban Leprosy Centres	1,157
3. Survey Education and Training Centres	6,695
4. Non-medical Supervisors	814
5. Urban Leprosy Centres	445
6. Reconstructive Surgery Units	71
7. Temporary Hospitalisation Wards	226
8. Leprosy Training Centres	42
9. District Leprosy Officers	119
10. Upgradation of Urban Leprosy Centres	8
11. Upgradation of Leprosy Training Centres	4
12. Upgradation of District Leprosy Units	20
13. Upgradation of Leprosy Control Units	8
14. Leprosy Rehabilitation Promotion Unit	1
15. Sample Survey cum Assessment Unit	1
16. Leprosy Beds	32,000
17. Voluntary Leprosy Organisations	42

Source : GOI, Ministry of Health and Family Welfare, *Annual Report 1981-82*.

detected and treated in different states and union territories is shown in Table 7.15.

The Leprosy Cell of the Directorate General of Health Services is the highest body for planning, supervision and monitoring of the programme. It is headed by the Assistant Director General (Leprosy). At the state level there is a State Leprosy Officer, who is responsible for the same functions within his state, barring planning. The District Leprosy Officer supervises programme implementation. At the peripheral level, the Medical Officers of the Leprosy Control Units and primary health centres, dispensaries and hospitals having SET items are responsible for all anti-leprosy activity.

By October 1981, a population of 330.35 million had been covered by the programme and 2.9 million cases had been detected. During 1981, 83,000 new cases had been brought under treatment, bringing the total number of cases under treatment to 2,527 million. During the year, 86,000 cases were discharged, bringing the total number of discharged cases to 893,000 (Table 7.15).

One of the major shortcomings of the programme is that the state authorities do not send regular reports and returns (Government of India, 1982b). As this programme does not enjoy high ranking among medical personnel, even among the national communicable disease programmes, the quality of such reports and returns as are received are even more

TABLE 7.14 : National Leprosy Eradication Programme Physical Component Till March 1983

Sl. No.	States/UTs	LCU	ULC	SET	THW	RSU	DLO	NMS	LTC
1.	Andhra Pradesh	63	85	702	40	14	30	117	7
2.	Assam	6	13	231	3	1	6	24	1
3.	Bihar	36	23	1,025	24	6	13	166	3
4.	Gujarat	9	21	365	6	3	6	46	1
5.	Himachal Pradesh	6	1	7	1	1	2	—	—
6.	Karnataka	21	43	670	21	5	14	108	4
7.	Kerala	2	16	331	4	2	3	29	1
8.	Madhya Pradesh	10	27	451	5	2	11	73	2
9.	Maharashtra	42	171	970	23	11	15	182	7
10.	Manipur	5	1	10	1	1	1	1	—
11.	Orissa	40	11	187	9	2	7	28	1
12.	Tamil Nadu	64	58	132	47	10	12	115	6
13.	Tripura	2	2	10	1	—	1	2	—
14.	Uttar Pradesh	22	52	963	15	6	16	155	4
15.	West Bengal	42	52	705	30	6	12	115	4
16.	Pondicherry	1	2	20	1	2	1	2	—
INDIA		389	607	6,900	243	74	159	1,100	41

L.C.U. : Leprosy Control Unit.

U.L.C. : Urban Leprosy Centre.

T.H.W. : Temporary Hospitalisation Ward.

D.L.O. : District Leprosy Officer.

N.M.S. : Non-medical Supervisor.

S.E.T. : Survey Education and Treatment Unit.

R.S.U. : Reconstructive Surgery Unit.

L.T.C. : Leprosy Training Centre.

Source : GOI, DGHS, *Health Statistics of India, 1983*.

TABLE 7.15 : Achievements of National Leprosy Control Programme Till October 1981

1.	Total population covered till October 1981	3303.5 lakhs*
2.	Total cases detected till October 1981	28.87 lakhs
3.	New cases detected during the year till October 1981	1.13 lakhs
4.	New cases brought under treatment during the year till October 1981	0.83 lakhs
5.	Total cases under treatment till October 1981	25.27 lakhs
6.	Cases discharged during the year	0.86 lakhs
7.	Total cases discharged till October 1981	8.93 lakhs

\*One lakh = 1,00,000.

Source : GOI, Ministry of Health and Family Welfare, New Delhi *Annual Report 1981-82*.

questionable. Even states like West Bengal and Orissa, which have a high incidence of leprosy, are not particular about sending reports.

Mixing of control activities with epidemiological survey activities in the leprosy programme makes matters worse and even today it is difficult to get a correct picture of the size and extent of the problem and the degree to which problem is being effectively dealt with.

However, taking the figures as given, indirect evidence of the extent of the problem can be obtained from the fact that Tamil Nadu tops the list in terms of Leprosy Control Units with a figure of 64, followed by Andhra Pradesh with 61, Maharashtra and West Bengal 42 each, Orissa 39, Bihar 36, Uttar Pradesh 27, and Karnataka 21 (Table 7.14).

It is significant that no very radical changes have been made in the programme during the past three decades. The approach has been described aptly as 'more of the same' approach (Government of India 1982e). The impetus for a qualitatively different approach to the problem has come, surprisingly, from the political field. Prime Minister Indira Gandhi gave a call for eradication of leprosy by A.D. 2000 at the World Health Assembly in May 1981 (Gandhi 1981), at a Joint Meeting of the Central Councils of Health and Family Welfare in June 1981 (Government of India 1981e), and once more at a meeting with eminent leprologists, social workers, and administrators in the voluntary sector in November 1981 (Government of India 1982e : 2).

Under the Prime Minister's directive, a Working Group on the Eradication of Leprosy was set up in July 1981 (Government of India 1982e). It is noteworthy that even at this late stage the main instrument for programme development has been a committee of experts. This contrasts sharply with the methodology adopted for formulating the National Tuberculosis Programme. The Working Group rejected the 'more-of-the-same' approach and made the following recommendations :

1. Constitution of a National Leprosy Commission for policy guidance and a National Leprosy Eradication Board at the Centre for implementation. Similar bodies should be constituted in the states.
2. Retention of the vertical structure of the Leprosy Control Programme with administrative and technical strengthening of leprosy cells at the central, state and district levels.
3. Launching of a systematic case detection campaign and bringing of all detected cases under treatment, and providing multi-drug therapy at least for infectious cases. Speedy implementation of the on-going Sixth Plan Leprosy Control Schemes to provide the necessary infrastructure.
4. Creation of a special cadre for leprosy service in the state health services so as to attract and retain doctors.

5. Timely release of grants to voluntary agencies. Workers employed by these agencies must be paid on a par with government workers.
6. Implementation of the recommendations of the Mukhopadhyay Committee of the Medical Council of India concerning leprosy education of undergraduate medical students.
7. In view of the shortage of medical officers, posting of senior para-medical workers as officers-in-charge of control units after an intensive 12-month training in basic community and general medicine.
8. Repeal of the Indian Leper's Act (1898) and amendment of other relevant legislation.
9. Launching of a nationwide mass education campaign on the facts about leprosy.
10. Intensive research in vital areas. (For example, methods for early diagnosis, identification of persons facing high risk of developing leprosy, *in vitro* culture of the leprosy bacillus, development of new drugs and immunomodules, development and testing of anti-leprosy vaccine.) Existing research institutes and facilities should be strengthened to undertake this.
11. At the centre, the Director of Leprosy Control should be of the rank of Deputy Director General of Health Services, and in the states of Deputy Director of Health Services. The leprosy control staff in the districts should be under the direct administrative control and discipline of the State Leprosy Officer.
12. A national consortium should be set up to co-ordinate the activities of the voluntary organisations and a revolving fund should be created by them to help those facing temporary cash-flow problems.
13. The Lok Sabha, Rajya Sabha and state legislatures should pass resolutions endorsing the call for eradication of leprosy by the turn of the century.
14. India should become self-sufficient in anti-leprosy drugs as soon as possible.
15. Rehabilitation of leprosy victims must form an integral part of leprosy control.
16. Cash and kind incentives must be given to cases which are regular in taking drugs. Special 'food for cures' programmes may be introduced in areas characterised by high prevalence.
17. Children of leprosy patients and child patients should receive priority attention under the Integrated Child Development Scheme.
18. Screening of pre-school children and youth for possible infection should be undertaken through skin camps.

One of the recommendations (listed No. 3) stresses that the strategy laid down by the Group can become operational only if the Sixth Plan leprosy

targets are met (Government of India 1981b : 370). This plan envisages reduction of the infectious case rate (from the present 20 to 10 per cent), correction of 50 per cent of correctible deformities, and rehabilitation of 50 per cent of the socio-economically dislocated patients. It aims at providing total coverage of all endemic areas so that no leprosy patient in these areas remains undetected, untreated and uncured.

Since 1981-82, the Leprosy Control Programme has been a Category I (high priority) programme with a total plan allocation of Rs. 400 million. In addition to intensifying Fifth Plan efforts, upgradation of old centres and establishment of new ones has been proposed. The new schemes included (1) establishment of 7 Regional Leprosy Training-cum-Referral Institutions for training of medical and non-medical personnel; (2) establishment of 15 Leprosy Rehabilitation Promotion Units for referral treatment followed by vocational training; (3) establishment of 15 Epidemiological Surveillance Teams and 12 Sample Survey-cum-Assessment Units to study and define the magnitude of the problem, the impact of the Control Programme, and to introduce intensified field trials with a multi-drug regimen in 10 selected districts.

The Leprosy Control Programme is also included in the Prime Minister's Twenty Point Programme (Government of India 1983b). It has received due attention at the Joint Conference of the Central Councils of Health and Family Welfare. But the progress made is far from inspiring. A Leprosy Eradication Board has been set up. Certain targets have been set. Additional facilities have been made available to voluntary agencies. But all these have had only a marginal effect on the programme. There are the usual lapses even in sending in reports and returns. Difficulties remain in retaining staff within the LCP. There have been serious administrative delays and lapses. Little headway has been made in conducting research studies to develop a more sound epidemiological approach to the problem.

Against this background, making available Refampicin in addition to Dapsone to 20,000 infectious patients in indoor institutions and 15,000 patients in the larger programme appears particularly inapt. In spite of all the emphasis of the Working Group on Eradication of Leprosy on the need to avoid doing just more of the same, an essentially same programme continues and not much of differences are discernible.

## **FILARIASIS**

While it was recognised that filaria was responsible for much morbidity among people living in certain endemic areas, for long no concerted efforts were made to control it. Most previous work was in the nature of stray sample surveys. In this case, even committees were not formed to recom-

mend a programme. It was noted that the infection was widely distributed in India, the only states probably free from indigenous infection being Himachal Pradesh, Punjab, Jammu & Kashmir and Rajasthan (Government of India 1968d; ICSSR-ICMR 1981 : 148-49; Directorate-General of Health Services 1980 : 21-23).

In 1950, the Indian Council of Medical Research (ICMR) initiated a programme for developing methods for control of filariasis by utilising synthetic insecticides for dealing with the mosquitoes responsible for the transmission of infection and also the use of hetrazan for treatment.

In the following years, based on the programme developed by the ICMR, the government of India initiated the National Filaria Control Programme (NFCP) which was meant to cover the major endemic foci. The object of the programme was to break the transmission at some point through :

1. mass drug administration;
2. anti-larval measures; and,
3. measures against adult mosquitoes, as in the malaria control programme.

As certain problems appeared in the implementation of the NFCP, in 1960, at the instance of the Government of India, the ICMR evaluated the programme. It was assessed again by an Expert Committee of the ICMR in 1971 (Directorate-General of Health Services 1980 : 23). The Expert Committee identified major shortcomings in the implementation of the programme and it recommended that :

- (a) the problem of filariasis should first be fully defined through survey units to get the basic epidemiological data needed for programme implementation;
- (b) anti-larval activities in urban areas should be combined with anti-parasitic measures through filaria clinics;
- (c) control measures should be extended to semi-urban and rural areas on a regionalised basis by limiting/reducing the reservoir of infection through detection and treatment teams.

It was found that prevalence of filaria was particularly high in the states of Uttar Pradesh, Andhra Pradesh, Tamil Nadu, Kerala and Maharashtra. What had been considered a basically urban phenomenon was observed to be spreading to rural areas as well. According to an estimate made in 1977, about 236 million people live in filaria endemic areas, only 64 million of them being in urban areas (ICSSR-ICMR 1981: 148).

By 1980, there were 165 filaria control units in various states and union territories, covering a population of only 24 million out of the estimated 236 million.

Even after thirty years of work in this field, the problem of filaria in the country has not been adequately defined in terms of its size and distribution. Thus far only 176 out of the 290 affected districts have been surveyed (ICSSR-ICMR 1981: 148). However, as shown in Table 7.16 estimates based on some very broad data are enough to come to a conclusion that, in the first three decades since India become independent, the disease has spread extensively—the population at risk has increased from 25.90 million in 1953 to 65.98 million in 1962, and 263.13 million in 1976.

**TABLE 7.16 : Population at Risk Estimated in 1953, 1962, 1967, 1970 and 1976 Under National Filaria Control Programme**

(Figures in million)

Sl. No.	State/UT	1953	1962	1967	1970	1976
1.	Andhra Pradesh	3.00	4.00	14.44	14.44	26.80
2.	Assam	1.80	1.00	1.00	1.00	7.84
3.	Bihar	3.00	5.00	21.30	21.30	22.49
4.	Gujarat	0.50	2.00	4.57	4.57	12.19
5.	Karnataka	0.40	0.50	1.73	1.73	5.80
6.	Kerala	2.00	4.15	4.00	4.00	23.80
7.	Madhya Pradesh	1.70	1.00	5.92	6.20	11.00
8.	Maharashtra	1.00	2.00	4.50	4.50	9.17
9.	Tamil Nadu	2.00	4.00	13.00	13.00	27.17
10.	Orissa	4.50	6.00	7.83	7.83	18.87
11.	Uttar Pradesh	3.50	33.42	32.97	47.00	54.46
12.	West Bengal	2.00	2.00	10.00	10.00	13.27
13.	A & N Islands	0.50	0.50	0.01	0.01	0.11
14.	Goa, Daman & Diu	+	0.15	0.15	0.15	0.45
15.	Lakshadweep	+	0.03	0.02	0.02	0.03
16.	Pondicherry	+	0.23	0.37	0.37	0.52
Total		25.90	65.98	121.81	136.12	236.13

+ Negligible

Note : No estimate has been made after 1976.

Source : GOI, DGHS, *Health Statistics of India*, 1981.

While some services are being provided to urban populations through the existing Falaria Control Units, it is now (1981-82) being admitted by the Union Ministry of Health and Family Welfare that 'there is at present no viable control programme for filariasis which will be effective in the rural environments' (Government of India 1982d: 13).

## **CHOLERA AND OTHER DIARRHOEAL DISEASES**

There has been a significant decline in the mortality and morbidity rates due to cholera over the past three decades (Government of India 1982d : 17). While this is encouraging, other water-borne diseases like diarrhoeas, dysenteries, enteric fevers of various kinds, and diseases like poliomyelitis and infective hepatitis are still very widely prevalent. In this context, schemes for protected water supply and sanitation are of considerable importance. Recognising this, and in response to the call of the United Nations, the current decade (1980-90) has been declared in the Sixth Five Year Plan as the International Drinking Water Supply and Sanitation Decade. It was hoped that all problem villages would be covered by 1983 (for details, refer to Chapter 18).

The strategy of oral rehydration therapy has been found to be effective in treatment of diarrhoeal diseases. Oral rehydration packets are being supplied to patients in rural areas through multipurpose workers (Government of India 1982d : 17).

## **BLINDNESS**

The launching of the Trachoma Control Pilot Project in 1956 under the Indian Council of Medical Research was the first step taken in the direction of prevention of blindness in India. The National Trachoma Programme was initiated in 1963 on the basis of experience gained in the pilot project (Government of India 1968d : 16-17). Punjab, Haryana, Rajasthan, Uttar Pradesh and Karnataka were the states in which this programme was mainly implemented. It was implemented on a lesser scale in Madhya Pradesh, Bihar, and Jammu and Kashmir. Distribution of tetracycline ophthalmic ointment and imparting of health education through specially trained para-medical trachoma workers located at primary health centres, were the main activities of the programme.

The control strategy was revised in 1969-70 to integrate the programme with the general health services (Government of India 1969c : 18-19). In areas which came under the malaria maintenance phase, the separate staff was withdrawn and the programme was carried on through basic health workers. In the rest of the affected areas, a health education assistant at the PHC level and a Health Education Officer for each group of a PHCs at the district level was posted to assist the Medical Officers of the PHCs and Chief Medical Officers of districts in carrying out the programme. Subsequently, except for Nagaland, Orissa, Sikkim, Tamil Nadu and West Bengal, all the states and union territories were covered by the National Trachoma

TABLE 7.17 : Targets and Achievements Under National Programme for Prevention of Visual Impairment and Control of Blindness

Service	Targets to be developed up to 1981-82	Target achieved	Targets set for 1982-83	Target achieved
<b>A. Trachoma Component</b>				
1. Blocks in various States/UTs identified for higher incidence of Trachoma and covered under Programme	3,550 in 293 Distts.	3,550 in 293 Distts.	Follow up activities continued	Follow up activities continued
<b>B. Control of Blindness Component</b>				
1. Establishments of Mobile Units	45	45	20	18
2. Strengthening of PHCs	1,600	1,590	70	70
3. Strengthening of Distt. Hospitals	250	246	66	52
4. Upgradation of Ophthalmic Deptt. of Medical College	30	30	10	2
5. Establishment of Regional Instt. of ophthalmology	6	4	2	Nil
6. Strengthening of Dr. R.P. Centre for ophth. Sciences	Assistance is continuing			
7. Establishment of schools for training of ophth. assistants	19	18	19	12

Against an annual target of 12,93,630 Cataract Operations, 7,83,533 Cataract operations are reported to have been performed.

Source : GOI, DGHS, *Health Statistics of India 1982*.

Control Programme, because in all of them trachoma was found to be highly endemic.

As shown in Table 7.17, by the end of 1980, the control activities have covered 3,550 blocks/PHCs serving a population of 296.6 million.

Administration of vitamin A on a large scale as a prophylactic measure against nutritional anaemia has also been implemented as a part of the integrated family welfare programme. This is discussed in Chapter 17.

A sample survey carried by the Indian Council of Medical Research at 7 centres in 1973 gives an estimate of about 9 million blind and 45 million persons with lesser degrees of visual impairment in India (Directorate-General of Health Services 1981a). According to this survey, the major causes of blindness (in per cent) are:

1. Cataract	55.0
2. Trachoma and associated infections	20.0
3. Smallpox (old cases)	3.0
4. Nutritional deficiencies	2.0
5. Injuries	1.2
6. Glaucoma	0.5
7. Others	18.3
Total	100.0

A noteworthy feature of this survey is that the report on it has not yet (Oct. 1985) been published. The figures above are merely presented in the Directorate-General of Health Services Report for the years 1979-80 and 1980-81, *National Programme for Control of Blindness* (Directorate-General of Health Services 1981a).

Taking note of the findings of the survey, the Central Council of Health and Family Welfare, meeting in 1975, recommended expansion of the earlier National Trachoma Programme to include the following strategy for prevention and control of blindness (Directorate-General of Health Services 1981a):

1. Dissemination of information about eye care, with particular emphasis on ocular health of children, both pre-school and school-going, and all other vulnerable groups, through all media of mass communication.
2. Creation of awareness among teachers, social workers and students concerning eye care, including the role of nutrition.
3. Augmentation of ophthalmic services by employing the 'Extended Eye Camp' approach, so that treatment can be provided in the shortest possible time.
4. Establishment of a permanent infrastructure for community-oriented eye health care at the peripheral, intermediate and central levels.

The Peripheral Sector of the programme has mobile units and provides community eye-care services at the PHCs and sub-centres. The Intermediate Sector comprises services at district and taluka hospitals. The Central Sector covers medical colleges, state eye hospitals, regional institutes of ophthalmology and the apex organisation, which are mainly responsible for training of personnel, for research, and for providing technical leadership to the programme (Directorate-General of Health Services 1981a).

In 1976, the National Trachoma Programme was renamed the National Programme for Prevention of Visual Impairment and Control of Blindness. Later, in 1981 the name was again changed, this time to National Pro-

gramme for Control of Blindness (Directorate General of Health Services 1981a).

The National Policy for Control of Blindness states: *One of the basic human rights is the right to see. We have to ensure that no citizen goes blind needlessly or being blind does not remain so, if, by reasonable deployment of skill and resources, his sight can be prevented from deteriorating or if already lost, can be restored* (Directorate General of Health Services 1981a : i).

As an immediate measure to deal with this problem a 'Crash Programme' has been drawn up. Under this programme, it is proposed to offer temporary services to give relief to people in rural areas in the shortest possible time. This is to be provided through mobile units. Each mobile unit is meant to cover five adjoining districts and conduct 20-25 camps a year and perform 1500-2000 intraocular operations (Directorate General of Health Services 1981a : 17-18).

By March 1984, 80 fully equipped mobile units were functioning in different parts of the country; 1660 PHCs had been strengthened and equipped. In addition, 360 district hospitals had been equipped and each one of them has an eye unit under the charge of a qualified ophthalmic specialist. Ophthalmic departments of 51 medical colleges have been developed as Community Ophthalmic Centres to provide integrated eye health care services. Five of the existing six institutes of ophthalmology have been converted into Regional Institutes. The Dr Rajendra Prasad Centre for Ophthalmic Sciences has been developed as the apex organisation to guide in planning and implementing the National Programme (Government of India 1984a : 39). The trachoma programme is being implemented through 3550 PHCs in 293 districts.

To meet the acute shortage of ophthalmic technicians, 35 training centres have already started to function. Each one of them trains 30 ophthalmic technicians a year (Directorate-General of Health Services 1981a : 17-18).

Rural health services have continued to distribute antibiotic ointment tubes for controlling trachoma and other infectious eye diseases (Directorate General of Health Services 1981a : 17).

Not much by way of epidemiological investigations was carried out before launching the National Trachoma Control Programme : it was preceded by what have been termed Pilot Projects under the auspices of the ICMR. Again, a massive programme was launched in the sixties to prevent nutritional blindness through administration of vitamin A, as it was assumed to be a major cause of blindness in the country. An epidemiological survey of blindness, which was finally conducted in 1977, reported that nutritional deficiencies account for barely two per cent of blindness in the country. No further details have been made available concerning this survey.

**TABLE 7.18 : State-wise Targets for and Achievements of Cataract Operations:  
Position on June, 1983**

Sl. No.	State/UTs	Target of cataract 1982-83	Cataract operations performed
1.	Andhra Pradesh	1,06,807	49,690
2.	Assam	39,805	4,626
3.	Bihar	1,00,000	50,539
4.	Gujarat	67,921	46,403
5.	Haryana	25,701	29,170
6.	Himachal Pradesh	8,475	6,265
7.	Jammu and Kashmir	11,963	719
8.	Karnataka	74,086	26,181
9.	Kerala	50,806	10,082
10.	Madhya Pradesh	1,04,263	1,12,027
11.	Manipur	2,867	302
12.	Maharashtra	1,25,387	1,13,403
13.	Meghalaya	1,150	1,178
14.	Nagaland	1,546	31
15.	Orissa	20,000	15,089
16.	Punjab	33,359	42,163
17.	Rajashtan	68,205	43,717
18.	Sikkim	631	40
19.	Tamil Nadu	96,594	77,187
20.	Tripura	4,120	2,224
21.	Uttar Pradesh	2,21,716	1,24,187
22.	West Bengal	1,08,971	11,793
23.	Arunachal Pradesh	1,256	181
24.	Goa, Daman and Diu	2,164	1,346
25.	Mizoram	975	357
26.	Pondicheery	1,208	1,551
27.	Andaman and Nicobar	75	72
28.	Chandigarh	900	1,249
29.	Dadra Nagar Haveli	207	96
30.	Delhi	12,392	11,661
31.	Lakshadweep	0	4
Total		12,93,630	7,83,533

*Source* : Ninth Joint Conference of Central Council of Health and Family Welfare, (Agenda Papers).

Being a part of the Twenty Point Programme, the National Programme for Prevention of Blindness (NPPB) has latterly received special attention from the Union Government. Targets have been laid down and the states and union territories are required to submit periodic reports on various aspects of the NPPB. Table 7.18 gives the state-wise targets and their achievements for 1982-83. Overall, 57 per cent of the targets could be

achieved. Haryana, Madhya Pradesh, Maharashtra, Meghalaya and Punjab achieved their targets, while Assam, Jammu and Kashmir, Karnataka, Kerala, Manipur, Nagaland, Sikkim and West Bengal failed to achieve even half of the set targets.

## **EXPANDED PROGRAMME ON IMMUNISATION**

In the wake of eradication of smallpox from the country, India launched the Expanded Programme on Immunisation (EPI) in January 1978, with active encouragement from the WHO (Government of India 1980b: 30). The object of the programme is to reduce morbidity and mortality from diphtheria, pertussis, tetanus, poliomyelitis, measles, tuberculosis and typhoid fever, so that these diseases cease to be public health problems. This is intended to be a permanent programme for children and is being implemented through existing health institutions like the PHCs and sub-centres in rural areas and hospitals and maternal and child health centres in urban areas. Integration of immunisation services, expanding of vaccination coverage, addition of new vaccines where necessary, development of a 'cold chain' of supply to ensure that vaccines are stored under refrigeration till the point of use, organisation of a surveillance system, coordination of production and supply of vaccines, training of health personnel, preparation of health education material, and evaluation, are the major components of the EPI.

Table 7.19 shows the coverage under the EPI in 1979-80 to 1982-83.

## **RELEVANCE OF VERTICAL PROGRAMMES**

Vertical programmes have had a major influence on the growth and development of health services in India. These programmes were among the first efforts to deal with some of the problems of public health importance. On the face of it, the decision to launch vertical programmes appears to be very logical. Communicable diseases accounted for a substantial proportion of the morbidity and mortality load of the country. Very potent weapons had become available for combating them. It was also thought that a unipurpose, mass campaign approach, involving unified, single line of command, running from the very top to the bottom, was the most effective mechanism for the conquest of these diseases. Indeed, programmes for control or eradication of communicable diseases were taken up on the lines of a military operation, involving preparation for the operation (Preparatory Phase), launching a strong attack on the enemy—the disease in this case (Attack Phase), consolidating the gains made through the attack (Consoli-

TABLE 7.19 : EPI Performance in India During 1979-80 to 1982-83

Vaccine	Period	Achievement (in 00,1000)			
		I dose	II dose	III dose	Booster
1. D.P.T.	1979-80	92.33	72.89	59.43	8.62
	1980-81	90.62	72.27	60.27	10.96
	1981-82	104.81	84.73	72.26	13.56
	1982-83	118.72	97.08	83.30	17.81
2. T.T. (Preg. Women)	1979-80	60.08	46.05	37.78	1.40
	1980-81	69.04	50.38	37.02	1.97
	1981-82	71.10	54.87	—	9.70
	1982-83	80.09	64.00	—	10.40
3. Polio	1979-80	10.78	7.39	5.40	1.28
	1980-81	22.93	17.12	13.76	3.01
	1981-82	37.60	27.37	23.01	4.70
	1982-83	56.71	43.63	37.27	7.30
4. D.T.	1979-80	114.58	98.63	—	8.69
	1980-81	111.08	91.76	—	9.12
	1981-82	112.34	93.43	—	8.31
	1982-83	120.71	90.29	—	11.44
5. Typhoid	1979-80	9.84	3.97	Not applicable	
	1980-81	28.91	17.39	Do.	
	1981-82	43.47	32.40	Do.	
	1982-83	67.22	50.00	Do.	
6. T.T. (School children)	1979-80	Not started			
	1980-81	3.70	2.50	Not applicable	
	1981-82	21.97	18.06	Do.	
	1982-83	37.77	31.07	Do.	

E.P.I. : Extended Programme of Immunization.

D.P.T. : Diphtheria-Pertussis-Tetanus Vaccine.

T.T. : Tetanus Torxid.

D.T. : Diphtheria-Tetanus Vaccine.

Source : GOI, DGHS, *Health Statistics of India*, 1983.

dation Phase), and keeping up surveillance operations to ensure that the disease does not stage a comeback (Maintenance Phase) (Borkar 1961 :12).

Aside from some justifications which were presented to favour of such a military style approach, there is little doubt that the military background of the key health administrators (IMS officers) and their colonial value-orientation had a great deal to do with the formulation of verical programmes. These were focussed on individual diseases and were imposed from above. They were almost exclusively based on what were then considered to be the near miraculous potency of the recently discovered technology ('silver bullets'). Protagonists of this approach were so deeply convinced about its soundness that they emphatically asserted that as the diseases were going to be eradicated from the country once for all or at

least controlled so thoroughly that they would cease to be public health problems, there was little sense in conducting any major research in these areas (Borkar 1961 : 12). This supreme confidence in the success of this approach led them to come forward with yet another argument in favour of concentrating efforts on vertical programmes, namely, that such programmes are highly cost-effective, because, as the disease will be rooted out once for all, after initial heavy investment, there would be no need of making further investment on tackling the diseases in the future.

A 'vertical' approach to a health problem in developing countries was also strongly favoured within WHO and technical cooperation missions of affluent Western countries (Gonzales 1965). This considerably strengthened the hands of the IMS health administrators. The Indian programmes became an important part of WHO's programme for launching mass campaigns against individual diseases on a global scale. As a result, the services of many experts were made available to India to strengthen its programmes. UNICEF also joined WHO to extend some support to many vertical programmes in the form of equipment and supplies. Western countries, more particularly the USA, also came forward in a big way to provide the bulk of the needed supply of insecticides, drugs, equipment and vehicles. It is important to note, however, that although India became almost totally dependent on foreign sources for vital supplies for the programmes, it had still to bear more than nine-tenths of their total cost (Banerji 1975b).

The vertical approach to the major communicable diseases also received enthusiastic endorsement from the political leadership of independent India. This was a key factor. The class background of the leadership has already been described in Chapter 3. The Government of India itself had referred in 1982 to the persistence of a cultural gap between providers of health services and the broad mass of the people, to the curative orientation of the former and their serving mostly the upper crusts living in cities, and to their being moulded on Western models (Government of India 1982a). Under such circumstances, it is not surprising that a very large proportion of the resources was consumed by hospitals and medical colleges in big cities and, of the very limited resources earmarked for attending to the needs of the masses, the bulk was allocated for running the vertical programmes.

The vertical programmes were attractive to the political leaders for a number of reasons. They gave spectacular results within a short time; they dealt with health problems which were extensively prevalent; they were assured of support from international organisations and Western countries; and, this approach offered a simple alternative to establishing a network of permanent health services to cover the vast population of the country.

Approval of the this military-type approach enabled the IMS officers to 'do something for the masses', as repeatedly demanded by the political leadership. By launching these programmes they could avoid undertaking the much more complicated and much more difficult task of understanding rural populations and working with them to set up permanent services to meet their health needs.

A number of vertical programmes were launched soon after independence. BCG inoculation was carried out as a mass campaign. In the case of malaria it took the form of NMCP and NMEP. The smallpox vaccination programme was revamped to become the National Smallpox Eradication Programme (NSEP). National control programmes were also launched against leprosy, filariasis, trachoma and cholera.

Except for NSEP, every other mass campaign has failed to yield the expected results. Even in the case of smallpox it may be noted that the programme had failed on two earlier occasions (Basu *et al* 1979 :27-28). It is also worth noting that it succeeded at the third attempt when WHO had undertaken a global programme for eradication of smallpox and even in this case India was among the last few countries of the world to achieve eradication of the disease. Why had a country with such a long history of health services and so much manpower and other resources to depend on experts from WHO to eradicate such an easily eradicable disease and, even after all the assistance from outside, why should it have been among the last few countries to do so? A critical examination of issues such as these provide valuable insights into the mechanism of development of health services.

There are some obvious explanations for the uniformly disappointing results of the vertical programmes. These are discussed briefly below.

1. There has been an overestimation of the potency of the technical tools (e.g. BCG and cholera vaccines), while the importance of some other factors (e.g. ecology of the parasite or the intermediate host and community participation) have been underestimated. It was presumed that the available tools to strengthen the host and to destroy the parasite or the intermediate host were so potent that the other ecological factors, including social and cultural behaviour of individuals and communities were of only marginal significance.
2. There was also an underestimation of the biological consequences of an intervention on such a mass scale, e.g. development of resistance to insecticides and drugs.
3. Adequate attention was not paid to dealing with the problems in all their dimensions (e.g. microbiological, social, cultural and ecological) and to finding effective ways of dealing with them.

4. There was also a gross underestimation of the organisational and management needs for implementing the programmes on such a large scale. Apart from the choice of a military style organisation, with a unified chain of command, with authority to 'hire and fire' at every level, the problem of setting up an administrative machinery, with a minimal level of efficiency, for all parts of the country were not adequately appreciated. Because of this, the programme just could not be implemented in many areas where it has not been possible to mobilise the necessary administrative resources.
5. The monotony of carrying out a single function, the physical strain of going from house to house and from village to village, year after year, the insecurity of the job—and the emotional strain of being repeatedly away from the family for long periods affected the morale of the workers.
6. Diversion of the bulk of the very limited resources for developing rural health services for the vertical programmes has had a very damaging impact on the development of a network of permanent health institutions to meet the other health needs of the people. Thus, even when some vertical programmes succeeded in alleviating suffering caused by some specific health problems, other problems, which cumulatively accounted for much more suffering, were left virtually unattended. Furthermore, some of those who benefited from a vertical programmes later on fell victims to other health problems, e.g. dysenteries, fevers, malnutrition and anaemias.
7. There is also a built in contradiction in vertical programmes in Third World countries like India. Preoccupation with running of vertical programmes had led to neglect of development of network of permanent health institutions in rural areas—the health infrastructure. In turn, weaknesses in the infrastructure have made it difficult to maintain a disease at a low level of incidence after the attack and consolidation phases are over. This has caused reversion of populations to the attack and consolidation phases, thus leading to further drain on the resources and continuing neglect of the growth of the infrastructure.
8. In some instances, dependence on foreign countries for supplies got linked up with political consideration. For example, supply of DDT to India by the USA was stopped on the outbreak of India-Pakistan hostilities, leading to setbacks to the NMEP (Banerji 1975).

After many expensive failures and after loss of much valuable time, it was finally accepted, at both administrative and political levels, that a permanent rural health infrastructure employing multipurpose workers was a definitely better alternative to a mobile system employing unipurpose workers (Government of India 1963). However, before the health

services system could recover from the traumatic effect of the vertical programmes, an even more extensive programme was launched in the form of the Family Planning Programme (see Chapter 9). In 1963, a committee of the Union Ministry of Health and Family Planning advocated the use of Basic Health Workers for all types of health and family planning work (Government of India 1963). This could not be implemented because both the family planning and the malaria programme administrators complained that their work was being neglected by the basic health workers (Government of India 1966). It needed failures of both the programmes over a much longer period to get them to agree in 1973 to have their programmes implemented through multipurpose workers (Government of India 1973a). As will be observed in Chapter 10, even twelve years after its acceptance, the Multipurpose Workers Scheme is yet to be implemented in 102 out of 406 districts (Government of India 1984c : 42).

It is worth noting that in the history of public health in Western countries virtually no vertical programmes have been employed to combat communicable diseases. Changes in the ecological conditions brought about by socio-economic development have been the principal factors which led to control or eradication of communicable diseases in these countries (McKcown 1976). Even in the recent instance of control of poliomyelitis with the help of the vaccine, the vaccination programme had been a part of the activities of the local health authorities. It is interesting to examine why those who never had a vertical programme in their own countries should have been so fervent in advocating such programmes in Third World countries (Walsh and Warren 1979).

### **METHODOLOGY FOR FORMULATION OF THE NATIONAL TUBERCULOSIS PROGRAMME**

The methodology adopted in the formulation of the National Tuberculosis Programme is very relevant as it offers a framework which could have been used with profit for launching programmes for tackling other community health problems (Banerji 1981b). Because of its wider implications, the distinguishing features of this methodology are presented below.

The outstanding features of the approach to programme formulation followed at the National Tuberculosis Institute are :

1. its epidemiological approach;
2. its rigorous approach to research procedures and analysis;
3. its base in inter-disciplinary studies on problems of tuberculosis control;
4. its adoption of operational research, systems analysis, and other advanced research methods;

5. its Team Training Approach for implementation;
6. its emphasis on constant monitoring and evaluation of the ongoing programme to enable re-adjustments as soon as the need for them arises; and
7. its emphasis on the need to integrate specific diseases control programmes with the general health services.

### **Epidemiological Approach**

The epidemiological approach to tuberculosis work in India has been a major feature of the programme since the early fifties, when India launched its Mass BCG Campaign (Barua 1981). In view of the very wide dimensions of the problem and extreme limitations of resources, mass BCG vaccination was considered at that time to be the only practical approach.

Another landmark in the programme was the undertaking of the National Sample Survey of Tuberculosis in the mid-fifties (Indian Council of Medical Research 1959). This Survey is still regarded as a model pioneering effort. Its findings opened up major issues for consideration when formulating the national programme. Impelled by the same urge to understand the dynamics of the problem of tuberculosis in the community, many crucial studies were conducted at the New Delhi Tuberculosis Centre (Pamra 1981), at the Union Mission Hospital at Madanapalle (Frimodt-Moller *et al.* 1964), and elsewhere in the country.

The establishment of the NTI in 1959 can be regarded as a major watershed in the development of the epidemiological approach to the problem. The baseline epidemiological survey in Tumkur (Raj Narain 1963), the audacious longitudinal survey of tuberculosis in Bangalore District (Gothi 1976), and the tuberculosis prevention trial in Chingleput District of Tamil Nadu (Baily 1980) were outstanding studies conducted at NTI which provided the basis for formulating the National Tuberculosis Programme.

It is significant that this epidemiological approach not only enabled the workers to develop an understanding of the size and distribution of the problem in the country as a whole, but it also enabled them to understand the dynamics of the epidemiology of the disease in a time dimension. This understanding of the natural history of tuberculosis in the country has been most valuable in developing a strategy for tuberculosis work. Epidemiological data also helped determine the detailed framework for intervention and how the available resources could best be distributed in terms of :

- (a) reduction in the pool of infection through case finding and treatment;

- (b) prevention through BCG vaccination;
- (c) the relevance or otherwise of chemo-prophylaxis; and
- (d) synchronisation of the NTP with the natural history of the disease in the country.

### **Rigorous Approach to Research**

The clinical trials conducted at the Tuberculosis Chemotherapy Centre, Madras (as it was then known) (Tuberculosis Chemotherapy Centre 1959), provide an instance of the degree of scientific rigour that was applied in conducting community health research on tuberculosis in India. It is this insistence on rigour which earned these studies the reputation of being among the most outstanding research studies in the field of tuberculosis.

A distinguishing feature of the research work which formed the basis of the National Tuberculosis Programme was the meticulous care that was taken to conform to very exacting specifications in using research techniques, be it in the tuberculin test (Raj Narain 1968a), or the definition of a case of tuberculosis on the basis of radiological or bacteriological criteria (Raj Narain 1968b), or a research programme using social science tools (Banerji and Andersen 1963). Meticulous care taken in forming the statistical basis of the designs of various research studies and insistence on refining the research tools and obtaining statistically significant population coverage (Gothi 1976; Baily 1980; Tuberculosis Chemotherapy Centre 1959; Banerji and Andersen 1963), are additional indicators of the efforts made to conduct research in a manner conforming to the highest scientific norms.

### **Inter-disciplinary Studies**

Indian tuberculosis workers can also rightly claim the distinction of being pioneers in developing an inter-disciplinary approach to public health problems. Epidemiologists, statisticians, health administrators, bacteriologists, diagnostic radiologists, technicians and engineers who handle radiological and bacteriological equipment, specialists in tuberculosis, sociologists and public health nurses were brought together at the National Tuberculosis Institute to work as an integrated team to formulate in the National Tuberculosis Programme (Banerji 1971b). This inter-disciplinary team also turned out to be a remarkable example of the working together of a very competent and highly motivated group of Indian experts with an equally effective international group under the auspices of the World Health Organization.

## **Operational Research and Systems Analysis**

It was recognised at a very early stage that the programme had to be visualised as an organised complexity. It had to be a highly complex structure because a very large number of factors were involved in it. At the same time, it had to be a highly organised structure because the many factors which constituted it were in complex interaction with each other. Operational research was, therefore, resorted to for formulation of the NTP as an organised complexity (Andersen 1964; Banerji 1969).

The epidemiological approach adopted underlined the difficulties involved in formulating such an organised complexity. It also helped in the identification of the data (which had often to be derived from a large variety of disciplines) that would be needed for formulating the programme. Perhaps the most crucial task in the application of operational research to formulating the NTP was to develop a framework which would help in using data from various disciplines to identify many alternative ways of dealing with tuberculosis as a community health problem within the constraints that existed at that time.

Making of forecasts concerning the outcome of the various alternatives thus identified was the next step. This was necessary for the identification of the optimal solution, one which promised maximum returns from the available investment of the resources. Testing the chosen solution under actual field conditions (test runs), as opposed to the often highly artificial conditions that creep into 'pilot studies', was the next step and the data from these tests were fed into the solution to make it even more effective. The final step was the nation-wide implementation of the chosen solution with a built-in feedback system to continuously monitor the implementation of the programme.

The systems analysis approach is similar to that of operational research but is usually applied for improving the functioning of an already existing complex systems (Banerji 1971b). It has also been applied on occasions when snags developed in the course of implementation.

A very significant gain from the use of operational research and systems analysis was that it helped in identifying the need for specific research studies on matter of detail required to improve the functioning of the system as a whole. Studies of treatment default (Banerji 1967a; Singh and Banerji 1968; Banerji 1970), effectiveness of different combinations of antituberculosis drugs (Indian Council of Medical Research 1981), the problem of drug resistance, information system and logistics (Srikantan and Samuel 1981), are examples of such researches which have played critical roles in the formulation and implementation of the National Tuberculosis Programme.

## **Team Training**

The identification of the need to train an entire team of workers, rather than training workers individually (Chandrasekhar 1981), was an outcome of the inter-disciplinary approach to the formulation of NTP. Implementation of the NTP needed managerial physicians to run the programme as a whole and to provide leadership to other team members. These are a bacteriologist, an X-ray technician, a treatment organiser, a statistician, and a BCG team leader. The NTI had formulated a complex programme to provide training to such an inter-disciplinary team of personnel belonging to different specialities and having different statuses in the administrative hierarchy.

Team training was conducted in three phases. The first provided an overview of the entire task to be performed by the entire team. In the second phase, individual team members were provided training in specific skills. In the third phase, practical training in the field was provided to whole teams operating as a unit to provide services to tuberculosis patients. This team work needed not only technical skills but also skills in conducting interpersonal relations within the team.

## **Monitoring and Evaluation**

The NTP has an elaborate system of reports and records (Srikantan and Samuel, 1981) which enables the organisers to constantly monitor its implementation. Indeed, the degree of development of the monitoring system is in itself an indication of the degree of implementation of the programme. Besides this, the NTP envisages evaluation, both internal and external, through State Tuberculosis Centres, the National Tuberculosis Institute and some independent organisations.

It does not, however, need any detailed evaluation or monitoring to find out that, even twenty and more years after the acceptance of the NTP, very much still needs to be done to meet even the existing felt needs of people suffering from tuberculosis. Why, it can legitimately be asked, after all the effort devoted to the formulation of the programme and more than twenty years of implementation, over three-fourths of infectious cases seeking help in various health institutions, all over the country, are still being sent home with a bottle of cough mixture (Indian Council of Medical Research 1977b; Banerji, 1971b; ICSSR-ICMR 1981 : 143)? The reason is obvious: the NTP was specifically designed as an integral part of a comprehensive health services, for which India is yet to develop a sound infrastructure. This fact has been underlined in the 1982 Statement of National Health Policy (Government of India, 1982a). While the general health services are weak, it is unrealistic and obviously uneconomic to

expect a strong NTP. To attempt to strengthen it as an independent specialised programme is futile. As a specialised, vertical programme, it will be subject to the same ailments as afflict the general health services. To strengthen the general health services is the only way of strengthening the NTP. Here lies the relevance of the new thinking on Primary Health Care for the implementation of the National Tuberculosis Programme in India (Banerji 1981b).

### **Primary Health Care and the National Tuberculosis Programme**

Though formulated in the early sixties, the National Tuberculosis Programme is in complete harmony with the commitment of the Government of India to provision of health for all through Primary Health Care (Government of India 1981a; Banerji 1981b). The NTP is also of crucial significance for dealing with the problem of tuberculosis as a component of the high priority Twenty Point Programme of the Government of India (Gandhi 1982). This harmony arises as the philosophy behind its formulation has also been the philosophy of the formulation of the concept of Primary Health Care (World Health Organization 1978).

The NTP was formulated to provide a framework for dealing with *all* cases of tuberculosis in India within the existing constraints of financial and administrative resources and in the existing ecological, social, cultural and political setting. In dealing with the problem of tuberculosis, it offered an approach to the practice of 'community-side' medicine, as opposed to the conventional practice of clinical or bedside medicine.

'Going to the people and learning from them' through conducting sociological investigations was the fundamental basis of the formulation of the NTP (Banerji 1971b). Learning from the people through sociological studies made it possible to subordinate technology to the people, rather than subordinate people to a predetermined technology, such as use of mass miniature radiography or of highly sophisticated and expensive chemotherapeutic regimes, in sophisticated institutions. Data concerning the people led to the formulation of the following major elements of the NTP:

1. As there was a considerable degree of already existing felt need for tuberculosis services amongst patients, meeting this need had to be given top most priority.
2. Acquiring understanding of the people, including their health behaviour, made it possible to develop a simple, inexpensive but epidemiologically very effective tool for diagnosing tuberculosis cases through smear examination of those showing symptoms of the disease and making use of the existing radiological facilities for referral purposes.

3. The people themselves demonstrated that any tuberculosis programme, if it is to be effective, has to be an integral component of the general health services, as they go to various institutions which provide these services for alleviation of suffering caused by all kinds of diseases, including tuberculosis.
4. Data collected also showed that meeting of the existing felt needs might lead to generation of more felt needs for services and, through this process it might be possible for a felt need oriented tuberculosis programme to cover almost all the infectious cases in a community (Banerji and Andersen 1963; Banerji 1980a). It also indicated that if, for any reason, this does not happen and resources are available to offer services to more tuberculosis patients, a carefully designed health education strategy can be of use in generating consciousness of the need for treatment among those who have yet to acquire it (Banerji, 1980a) (see also Diagrams 1, 2 and 3 on p. 408).
5. A felt need oriented tuberculosis programme is thus not only based on active participation of the community, but it also grows in harmony with changes that might occur in the natural history of the disease in a community, either as a result of biological changes in the host and/or the parasite or as a result of developments in other social and economic sectors, or both (Banerji 1971a). In this way the NTP does not simply become an integral component of the general health services; it gets identified with the broader intersectoral action for health.

## **ANALYSIS OF COMMUNICABLE DISEASES CONTROL/ ERADICATION PROGRAMMES**

### **Malaria**

The general analysis of the approach of vertical programmes and the methodology used for formulating the NTP have been presented above to underline the major shortcomings in the programmes related to different communicable diseases. These shortcomings pertain to:

1. Development of an epidemiological approach to the problem of a communicable disease in a population.
2. Formulation of a suitable strategy for influencing the epidemiological behaviour of the disease.
3. Implementation of the programmes.
4. Evaluation.
5. Research.

In such a framework, a programme for eradication of malaria should be based on a detailed analysis of the epidemiological behaviour of the disease in the country. This needs detailed consideration of (a) different population groups, (b) different species of malarial parasites, and (c) the intermediate host, in the context of the widely differing ecological conditions prevailing in different parts of the country. Such diverse considerations are then correlated with incidence of the disease under different conditions and in a time perspective. However, these critical epidemiological parameters were not even identified at the time of the formulation of the NMCP and NMEP. An estimate made by Sinton (1935) for the Indian sub-continent in 1935 was still being used in the mid-fifties as virtually the only source of information concerning the incidence of the disease in the country. This state of affairs is existing because the necessity for epidemiological data was not felt. It was assumed that the incidence of the disease was very high (and Sinton's estimate served the purpose) and it was also assumed that periodic spraying of houses with residual insecticides and radical treatment of malaria cases could be carried out so effectively that it would be possible to root out the disease from the entire country within less than ten years.

In practice, however, even the operations could not be carried out effectively in all parts of the country. Further, it was also discovered that effectiveness of implementation was not always correlated with success in reducing the incidence of the disease. For instance, in West Bengal and in the northern districts of Bihar and Uttar Pradesh (Table 7.2), the fall in the incidence and the continuing low incidence cannot only be due to effectiveness of the programme in these areas. The programme is similar in the southern parts of Bihar and Uttar Pradesh and there are other states like Haryana, Punjab and Gujarat, and the union territory of Delhi, which have a much higher incidence, even though implementation of the NMEP was certainly as effective there as in the other three states.

A detailed analysis of the working of the NMEP (later of MPO) has shown that there are two basic shortcomings in the NMEP (Dutta 1980). First, factors such as ecological conditions, certain important entomological features of the mosquito, the overall epidemiological behaviour of the disease, and community considerations got obscured because the programme administrators had grossly overestimated the likely impact of an approach to the problem which is essentially technocentric in character. Second, even the limited programme has not been effectively implemented.

Presumably for the same reasons, many critical areas in the operation of the programme have not been evaluated adequately. Because of inadequacies in evaluation it has not been possible even to identify research problems

which could be taken up to improve the performance of the NMEP (Indian Council of Medical Research 1977a).

Later, when the need for an alternative to the NMEP was finally realised, once again recourse was taken to setting up a series of committees of experts to formulate the Modified Plan of Operation (MPO) : it was not felt necessary even to identify the key variables within the complex system with a view to identifying the optimal solution among the many possible alternatives. Research, including operational research, was finally recognised as an important component of the MPO (Pattanayak 1981). However, the studies carried out thus far have had not considered the programme as a whole.

The MPO thus continues to follow the pattern of the NMCP and NMEP. A heavy price has had to be paid for the failure of the NMEP; but no lessons have been learnt from the very costly mistakes made. Once again, considerable expenditure is being incurred in implementing the MPO.

## **Leprosy**

The situation is much worse in the case of leprosy. Though in this case also Dapsone, a very efficacious drug against the disease, is available, dealing with the disease as a public health problem has posed many more complex problems than in the case of malaria. Ensuring sustained treatment of the diagnosed cases needs much greater administrative effort. Further, leprosy work did not receive as much support from health administrators, political leaders, international organisations and foreign countries as malaria did.

The National Leprosy Programme is being assessed here in some detail because many of the issues involved in planning, formulation and implementation of this programme also offer important insights into programmes for dealing with many other major national health problems. This programme also deserves particular attention because, in the wake of the then Prime Minister's strong commitment to allotting a very high priority to the programme, some of the top scientists of the country have been mobilised to suggest ways of strengthening it.

There are some major considerations which lend a particular urgency to dealing with the problem of leprosy in India as a public health problem:

1. Leprosy is a particularly pernicious disease not only in terms of the degree of physical and psychological damage it does to the individual, but also in terms of its devastating impact on the victim's family life and his life within the community.

2. Cases of leprosy can be clinically diagnosed easily even by a person with very limited education and training.
3. A very potent drug is available at a very low cost to cure this disease. There is a long phase before the devastating effect of the disease become manifest and, therefore, there is considerable scope for intervention through chemotherapy to forestall such an eventuality.
4. There are large populations in the country which have a very high prevalence of the disease and, therefore, in terms of the population as a whole, the disease causes enormous suffering.

A number of national and other institutes have been engaged in research in the field of leprosy (Directorate General of Health Services 1980). The disease has received special attention from Christian missionaries, many of whom have been rendering services to leprosy patients for a long time. Presumably, with Mahatma Gandhi showing the way, there have also been other voluntary leprosy workers operating under the auspices of the Hind Kusht Nivaran Sangh and other agencies.

Why then should millions of Indians still continue to suffer due to lack of access to leprosy services? Not only does the disease carry a very deep-seated stigma within a community, but even leprosy workers and leprosy services are shunned. These attitudes have been carried right into the ranks of health workers and community health services (Banerji 1984b).

Leprosy work has also not received its due share of inputs in research, programme formulation, programme implementation and programme evaluation from the health administrators of the country. Undoubtedly, pulmonary tuberculosis has a much wider prevalence and it can be conceded that, from a public health point of view, it ought to receive a higher priority. However, even in terms of the relative importance of leprosy as a community health problem, a comparison with the efforts made in the field of pulmonary tuberculosis reveals a very sharp imbalance against leprosy programme. While in the case of pulmonary tuberculosis a nationwide sample survey was carried out in the mid-fifties, nothing of that dimension has been done in the case of leprosy, even though the cost of making such a survey of leprosy would be a very small fraction of what it would cost to conduct a similar survey of pulmonary tuberculosis.

As described earlier in this chapter, there have also been a number of detailed studies and surveys on various aspects of tuberculosis. No work of comparative quality and dimensions has been done in the field of leprosy.

Part of the explanation for these shortcomings is the 'stigmatisation' of leprosy work and leprosy workers referred to earlier. It has not been possible to mobilise intellectual resources for developing a sound and scientific approach to formulation of an effective community-wide leprosy

programme for the country. The programme has become a victim of a stereotyped, straight-jacketed thinking— Leprosy Control Units, SET Units, Urban Leprosy Clinics, Temporary Hospitalisation Wards, Surgical Reconstruction Units, and so on. This is clearly brought out by a study of the leprosy control programme in Chingleput District of Tamil Nadu (Rao 1982).

It may be noted that, while leprologists and social workers have continued to tinker with the problem with a 'more of the same' approach, the initiative for doing something qualitatively different has come from a different direction—from the political field, in the form of a commitment from the then Prime Minister of India. The setting up of the Working Group on the Eradication of Leprosy (Government of India 1982e) in July, 1981 was a follow-up of this political commitment.

The Working Group, which also had the support of the Science Advisory Committee of the Union Cabinet, in its Report has rightly asserted its determination to turn away from the 'more of the same' approach. However, as will be apparent from a discussion of the findings of the Chingleput study (Rao 1982) below, these recommendations fall very short of meeting the requirements for developing a strategy for eradication of leprosy in India. The Working Group does not seem to have given due importance to some of the key factors, while it places an unjustifiably strong emphasis on less important technological factors, such as multi-drug therapy and development of a vaccine.

A perusal of the main findings of the study of the Chingleput District Leprosy Control Programme summarised below gives an idea of the major weaknesses in the National Leprosy Control Programme as a whole :

1. In the community, leprosy is perceived overwhelmingly in terms of deformities which result from the disease and cases showing these form barely 15 to 20 per cent of leprosy cases within a community.
2. There is a big gulf between leprosy workers and leprosy patients. The gulf is even wider between leprosy workers and the community at large.
3. There are major shortcomings in:
  - (a) the work of the leprosy inspectors;
  - (b) the work for the non-medical supervisors;
  - (c) the work of the health educators;
  - (d) the work of the wayside clinics; and
  - (e) the work of SET centres and leprosy control units, including the work of the pharmacist, the laboratory technician and the physiotherapy technician.
4. Because of inadequacies in health education and mass communication, and in the service organisation, and because of deficiencies in motivating patients to accept treatment, there is a very high proportion of treatment

defaulters. There is also a significant group who failed to register themselves for treatment.

5. There is deep dissatisfaction among patients about the services made available to them for dealing with intercurrent ailments.
6. Patients have to suffer loss of wages and often have to spend considerable sums for travel for drug collection.
7. The cost to the patient is much higher when he receives services through a well established voluntary agency run by Christian Missionaries than when these are provided by a government agency. In addition, even comparatively, the efficiency of the leprosy work of this voluntary agency is much lower; corruption is much more extensive.
8. The linkage of district leprosy control officer with the district medical officer is a very weak. Lack of integration of medical care with other public health services also adversely affects leprosy work.
9. Creation of as many as six directorates at the state level dealing with different aspects of health services poses additional problems of integration.
10. There are major gaps in the data concerning the epidemiology of the disease.

The Working Group has confirmed that there have been major shortcomings in the mechanism of planning for leprosy control by making a categorical assertion against the 'more of the same' approach. It has also come forward with an alternative strategy. However, some of the important elements of the recommendations of the Working Group are subject to question. The most significant among them concern the epidemiological presumptions underlying the suggested strategy for leprosy eradication. The Working Group has spoken of eradication without considering such basic epidemiological issues as prevalence and incidence rates, mechanism of transmission and rate of transmission, size of the infection pool, natural history of the disease through a time perspective, and an integrated strategy for intervention in the epidemiological behaviour of the disease for reduction of the infection pool on the basis of a careful understanding of the natural history of the disease in an individual (Leavell 1965; Banerji 1971b). Absence of such discussion opens the entire strategy to very serious scientific criticism. It may be noted in passing that even many of the advanced industrialised countries cannot claim to have fulfilled the epidemiological prerequisites of leprosy eradication.

A questionable assumption of the Group is that the discovery of a vaccine and adoption of multi-drug therapy would lead to the eradication of the disease. The experience in the use of BCG vaccine in tuberculosis control has also not been examined adequately (Barua 1981; Baily 1980).

It is difficult to visualise that commercial production of a yet-to-be-discovered vaccine against an even more chronic disease like leprosy will be the ultimate weapon for the eradication of leprosy by the turn of this century. This, once again, underlines the lack of thinking on epidemiological lines in strategy formulation.

The recommendations are also contradictory at two critical points. There are repeated exhortations that a 'more of the same' approach will not do, while, at the same time, the Working Group asks 'for speedy implementation of the ongoing Sixth Plan Leprosy Control Scheme, to lay down the necessary infrastructure in the field'. This is obviously asking for 'more of the same'. Another very disturbing aspect of the recommendations concerns what the Working Group has described as 'Essentiality of Verticality'. It seems to be very emphatic in insisting on a vertical chain of command. Performance of leprosy inspectors and non-medical supervisors in the Chingleput study provides very disturbing examples of the problems involved in implementing a vertical approach to leprosy control. The behaviour of the medical officers and the district leprosy officer provide ample grounds to question the philosophy of 'essentiality of verticality'. Incidentally, a vertical approach goes against the principles of health service development enunciated in a number of important documents (for example, Leavell 1968; McGavran 1953; Grant 1963; Government of India 1982a).

Findings from the Chingleput study concerning a SET centre run by a voluntary agency do not lend credence to the optimism of the Working Group concerning setting up of a consortium of voluntary agencies. Perhaps it is lack of insight into the actual functioning of the programme at the village level which has led the Group to make this very obviously unrealistic recommendation.

## **Filariasis**

Experience with the National Filaria Control Programme is the most disappointing among that of all the vertical programmes. Control of this disease is much more difficult than control of malaria or leprosy, though, in this case too, Hetrazan is available as an efficacious chemotherapeutic agent. The disease has not received the attention it deserves from any of the key groups—political leadership, research workers, health administrators, and international agencies.

C.G. Pandit, who headed the Indian Council of Medical Research (ICMR) in the first two decades of independence, repeatedly drew attention to this gross neglect of this important public health problem, but his warnings went unheeded (Pandit 1982). However, while his criticism of failures at the administrative level was fully justified, as the head of the ICMR, he

too is accountable for some very gross defects in the approach to formulation of the Filaria Control Programme (FCP) by the ICMR. Without making even a reasonably reliable estimate of the size and extent of the problem, the ICMR went on to recommend what should be the content of the FCP. The fact that there has been a significant increase in the prevalence of the disease in the sixties and seventies is an index of the quality of the programme formulation, its implementation, and its monitoring and evaluation (ICSSR—ICMR 1981 : 148).

### **Blindness**

The approach to blindness as a community health problem also suffers from very serious infirmities. In the fifties, trachoma was believed to be the major cause of blindness. As in the case of malaria, it was apparently not considered necessary to gather even the most basic epidemiological data on trachoma. The National Trachoma Control Programme (NTCP) was launched with an expectation that the problem could be effectively dealt with by a large-scale treatment with antibiotics and promotion of eye hygiene in areas where the disease was thought to be highly endemic. Indeed, these measures could have yielded good results had they been implemented effectively. However, this could not be done because of serious flaws in the logistics and in the administration of the programme. As a result, a large proportion of the endemic population could not be covered by the NTCP.

At a time when the NTCP was functioning at a very low level of efficiency, attention was abruptly shifted to prevention of nutritional blindness through a twice-a-year administration of large doses of vitamin A to children. This may have been the result of high-pressure salesmanship of the drug industry. This programme also encountered severe logistic and administrative problems (National Institution of Nutrition 1976). No efforts were made to measure the impact of the programme on the epidemiological behaviour of nutritional blindness. As the crowning irony, an ICMR survey of blindness revealed that nutritional factors account for a barely two per cent of all the blind in India. That the ICMR survey had not given even a state-wise distribution of different forms of blindness in the country reflects the quality of the study (Government of India 1981a : 1).

The finding that as much as 65 per cent of blindness is due to cataract pushed the blindness control programme in favour of ophthalmologists working in eye hospitals. This had the merit of involving the top ophthalmologists of the country in the task of dealing with blindness as a community health problem. They participated in making ophthalmic survey facilities available at far-flung places through mobile units, with the ophthalmic centres and institutes serving as focal points for the community eye-care

programme. However, as is evident from the content of the National Programme for Control of Blindness (NPCB), the ophthalmologists could not follow up their enthusiasm for community ophthalmology with acquiring competence in using the methods and approaches of public health in formulating it. While the old trachoma content remains a component of a PHC, responsibilities for surgical work has been taken over by ophthalmologists.

Apart from the usual logistic and administrative problems, the NPCB suffers from the additional problem of coordination and integration of its different components.

The ICMR survey estimated that there were as many as nine million blind persons in the country (Government of India 1981a). However, a much more carefully designed study conducted by the National Sample Survey Organization puts the figure at three million (National Sample Survey 1983). This indicates how fragile and inadequate has been the data base for the NPCB.

### **The Extended Programme on Immunisation**

The Extended Programme on Immunisation (EPI) was developed after the successful eradication of smallpox. It did not emerge as a natural consequence of the growth and development of the health service infrastructure. Rather, the infrastructure was made to accommodate EPI, which was assigned from above, with all the problems of maintaining the 'cold chain'. Because of this, there have been no baseline surveys to measure the incidence of diphtheria, pertussis, tetanus, poliomyelitis, cholera and enteric infections and, as a consequence, no efforts have been made to estimate the *impact* of the EPI. The programme has become a mere ritual of reporting the number of immunisations done without explaining what has been the impact of these achievements. Significantly, in the case of Diphtheria-Pertusts-Tetanus (DPT) antigen, it is the pertussis antigen which requires refrigeration, with all its stupendous logistical implications. However, while insisting that DPT requires a cold chain, virtually no efforts were made to define the size and extent of pertussis in the country, and, what is even more alarming, it is not known how effective the pertussis antigen is against the disease under Indian conditions.

### **Other Communicable Diseases**

Due to serious weaknesses in public health practice, little attention was paid after the country became independent to the very sharp fall in the incidence of kala-azar. Again, when the disease reappeared in the late seventies, it did not arouse much interest among public health workers.

Apart from sending out a few investigating teams, little effort was made to understanding the natural history of kala-azar in the context of changing ecological conditions (Indian Council of Medical Research 1982b).

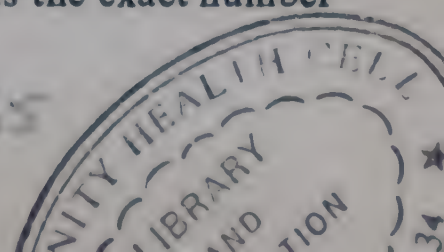
The response was on similar lines when the country encountered an extensive outbreak of epidemics of Japanese encephalitis (Indian Council of Medical Research 1980). The epidemic of what had been termed 'Joy Bangla' conjunctivities went almost unnoticed by those who are expected to provide protection against infectious diseases in the country.

Flaws in the formulation of policies and programmes for control or eradication of communicable diseases and in their implementation, monitoring and evaluation are but part of the price that had to be paid for allowing the sharp decline in public health practice and research in India. In the recent years, neglect of this critical area is being reflected in figures of outbreaks of diseases in epidemic form from different parts of the country. In the second fortnight of April 1984, for instance, there were newspaper reports of a very serious outbreak of a virulent form of schigella dysentery in almost the entire state of West Bengal, accounting for tens of thousands cases and thousands of deaths. Around the same time, Gujarat has been swept by an epidemic of infective hepatitis, and a large number of people in Bangalore suffered from cholera and 'gastroenteritis', resulting in hundreds of deaths (Banerji 1984a).

The health information system of the country is very weak indeed. It does not even have reliable data on births and deaths. As pointed out at the beginning of this book, absence of some of the basic information on the state of the health services in the country serves to protect the organisation from criticism. Presumably for the same reason, programme administrators have been reluctant to part with even the information which they do have (Banerji 1984a).

The response of health workers to the Bhopal Tragedy provides a poignant footnote to this chapter on communicable diseases in India. Somewhat dramatically, it provides an example of the price people of the country have to pay for failure to adopt an epidemiological approach to public health problems. Even if we do not take into account the important considerations concerning the location of the plant and criminal negligence in the implementation of safety measures and in the contingency plans to minimise damage to people in the event of an accident, the Bhopal Tragedy was essentially a *public health* problem: many tonnes of highly toxic chemicals were literally sprayed over an area containing hundreds of thousand of people. But in investigating this colossal tragedy, this public health problem was converted into problems of laboratory and clinical research. There was a lack of information from those who have it or should have had it on such elementary epidemiological aspects as the exact number

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of the dead, their distribution according to age, sex, place of residence and degree of exposure, the composition of the 'gas', the direction of its flow, its concentration and the rate of its descent in different areas (Banerji 1985a). But, almost overnight, a huge research empire came into existence with a fifteen million rupees grant from the government (Indian Council of Medical Research 1985).

## PART THREE

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### POPULATION GROWTH AND FAMILY PLANNING

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## POPULATION GROWTH

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### THE DYNAMICS OF INDIA'S POPULATION

THE POPULATION of India has been growing at an alarming pace. Over the past three decades it has risen from 361.1 million in 1951 to 683.8 million in 1981—showing a rate of increase of between 11 and 13 million annually.

Table 8.1 shows the census calculations and decennial changes in the total population and sub-population groups. Desai (1983) has observed that over a long historical period prior to 1921, India's population had grown at a very slow pace, presumably due to recurring famines and epidemics which had kept mortality at high levels. After 1921, the situation improved rather slowly up to 1951 and rapidly thereafter. In the decade, 1911 to 1920, the death rate was as high as 47 per thousand and expectation of life at birth only 20 years. The death rate decreased to 31 in 1931-40. The birth rate did not show a compensatory trend. It decreased from the extremely high level of 48 per thousand in 1911-20 to 45 in 1931-40 and 41 in 1951-60. According to the 1981 Census, it has decreased to 37 in 1971-80. It is this relative stability of the birth rate in the face of the substantial decrease in the death rate that has resulted in the rapid growth of India's population since 1921, and especially since 1951.

On short-term variations in the rates, the Sample Registration Scheme (SRS) provides a new source of information. According to the SRS, the death rate which had decreased to 15 per thousand by 1971 was still at about the same level in 1977. This stable mortality situation is disquieting since it reflects persisting high infant and childhood mortality as well as high maternal mortality. The trend of the birth rate suggested by the SRS (33 per thousand in 1977) has proved to be much too optimistic. This had raised hopes that a trend of fertility decline had set in, even though still incipient.

TABLE 8.1 : Census Population in India, 1901-81

Census year	Total population 000,000 (in lakhs)			Decen- nial change (per cent)	Geome- tric growth rate	Sex- ratio (females per 1000 males)	Density of popu- lation per km <sup>2</sup>	Percent- age of urban popula- tion to total population
	Persons	Males	Fe- males					
1901	2384.0*	1207.9@	1173.6	—	—	972†	77	10.84
1911	2520.9	1283.8	1137.1	(+) 5.75	(+) 0.56	964	82	10.29
1921	2513.2	1285.5	1227.7	(-) 0.31	(-) 0.03	955	81	11.18
1931	2789.8*	1429.3	1357.9	(+) 11.00	(+) 1.06	950†	90	11.99
1941	3186.6*	1636.8	1546.9	(+) 14.22	(+) 1.34	945†	103	13.86
1951	3610.9	1855.3	1755.6	(+) 13.31	(+) 1.26	946	117	17.29
1961	4392.3	2262.9	2129.4	(+) 21.64	(+) 1.98	941	142	17.97
1971	5481.6	2840.5	2641.1	(+) 24.80	(+) 2.24	930	173	19.91
1981	6851.8	3544.0	3307.8	(+) 25.00	(+) 2.28	933	216‡	23.31

\*The distribution of population by sex of Pondicherry for 1901 (246, 354), 1931 (258, 628) and 1941 (285,011) is not available.

The figures of these years are, therefore, exclusive of these population so far as distribution by sex is concerned.

@Sex-wise distribution of Chandranagar (26,831) of West Bengal and Gonda (18, 810) of Uttar Pradesh is not available.

†Excludes Pondicherry.

‡The density has been worked out on comparable data.

Source : Registrar General, India.

As mentioned earlier, the 1981 Census puts the birth rate at 37.1. According to Desai, India is still in a phase of rapid population growth which will probably get stabilised when India's population is nearly four times as large as it was in 1951.

Desai has also pointed out that population is not neutral to the varied facets of national progress. Its potential to cause damage is considerable when it is not accompanied by, or does not result from, the kind of social transformation that occurred at the corresponding stage of population growth in the West. When population grows in a situation already characterised by dire want and abject misery, it becomes a powerful factor in the inhibition of economic growth, in the promotion of social disorganisation and in the generation of political instability.

### DATA FROM THE CENSUS REPORTS

Some of the information available from the findings of the 1981 Census so far available are presented in Table 8.2.

TABLE 8.2 : Distribution of Population, Sex Ratio and Growth Rate of Population in States/Union Territories : Census 1981

India/State/ Union Territory	Population, 1981‡ (in 000,000)			Sex ratio i.e. females per 1000 males		Decennial growth rate of population	
	Persons	Males	Fe- males	1971†	1981‡	1961-71†	1971-81‡
1	2	3	4	5	6	7	8
INDIA*@	6851.8	3544.0	3307.8	930	933	+24.80	+25.00
<i>States</i>							
Andhra Pradesh	535.5	271.1	264.4	977	975	+20.90	+23.10
Assam**	199.0	104.7	94.3	896	901	+34.95	+36.05
Bihar	699.1	359.3	339.8	954	946	+21.33	+24.06
Gujarat	340.9	175.5	165.4	934	942	+29.39	+27.67
Haryana	129.2	69.1	60.1	867	870	+32.23	+28.75
Himachal Pradesh	42.8	21.7	21.1	958	973	+23.04	+23.71
Jammu and Kashmir@	59.9	31.7	28.2	878	892	+29.65	+29.69
Karnataka	371.4	189.2	182.2	957	963	+24.22	+26.75
Kerala	254.5	125.3	129.2	1,016	1,032	+26.29	+19.24
Madhya Pradesh	521.8	268.9	252.9	941	941	+28.67	+25.27
Maharashtra	627.8	324.1	303.7	930	937	+27.45	+24.54
Manipur	14.2	7.2	7.0	980	971	+37.53	+32.46
Meghalaya	13.4	6.9	6.5	942	954	+31.50	+32.04
Nagaland	7.7	4.1	3.6	871	863	+39.88	+50.05
Orissa	263.7	133.1	130.6	988	981	+25.05	+20.17
Punjab	167.9	89.4	78.5	865	879	+21.70	+23.89
Rajasthan	342.6	178.5	164.1	911	919	+27.83	+32.97
Sikkim	3.2	1.7	1.5	863	835	+29.38	+50.77
Tamil Nadu	484.1	244.9	239.2	978	977	+22.30	+17.50
Tripura	20.5	10.5	10.0	943	946	+36.28	+31.92
Uttar Pradesh	1108.6	588.2	520.4	879	885	+19.78	+25.49
West Bengal	545.8	285.6	260.2	891	911	+26.87	+23.17
<i>Union Territories</i>							
Andaman and Nicobar Islands	1.9	1.1	0.8	644	760	+81.17	+63.93
Arunachal Pradesh	6.3	3.4	2.9	861	862	+38.91	+35.15
Chandigarh	4.5	2.5	2.0	749	769	+114.59	+75.55
Dadra and Nagar Haveli	1.0	0.5	0.5	1,007	974	+27.96	+39.78
Delhi	62.2	34.4	27.8	801	808	+52.93	+53.00

1	2	3	4	5	6	7	8
Goa, Daman and Diu	10.9	5.5	5.4	989	981	+36.88	+26.69
Lakshadweep	0.4	0.2	0.2	978	975	+31.95	+26.53
Mizoram	4.9	2.6	2.3	946	919	+24.93	+48.55
Pondicherry	6.0	3.0	3.0	989	985	+27.81	+28.15

- \*Includes projected figures of Assam where census could not be held owing to disturbed conditions there.
- \*\*Projected figures for 1981.
- †Based on 1971 Census.
- @The population figures exclude population of area under unlawful occupation of Pakistan and China where census could not be taken.
- ‡Based on the final population figures of 1981 census.

Source : Registrar General of India.

It will be seen from the table that there are notable variations in the rates of decennial growth among the states and union territories. Tamil Nadu occupies the lowest position, followed by Kerala, Andhra Pradesh and West Bengal. Rajasthan, Haryana and Gujarat are among the larger states which have shown much greater decennial growth. Comparison of the decennial growth of 1971-80 with that of 1961-71 does not show any specific trend.

The sex ratio has been unfavourable to women since the beginning of the century, as shown in Table 8.1. In fact, it has been falling from decade to decade. From 972 women to 1000 men in 1901, it had come down to 930 to every 1000 in 1971. The 1981 Census shows a welcome sign that this trend has now been halted. Table 8.2 shows that Kerala is the only state where women outnumber men –1034 females for every 1000 males. As will be discussed in Chapter 19, Kerala presents a very special case. However, apart from Kerala, Orissa, Tamil Nadu and Andhra Pradesh also show much better female sex ratios. The situation is much worse in the case of Punjab, Haryana and Uttar Pradesh.

Table 8.3 gives the distribution of the population according to age. It indicates a reduction in the 0-14 age group from 42.2 per cent in 1971 to 39.3 per cent in 1981, and a rise in the 15-29 age group from 25.6 per cent in 1971 to 27.7 per cent in 1981. Together, this youth cohort makes up 67 per cent of the population. The 30-49 age group constitute 21.3 per cent and the rest, 11.7 per cent.

BIRTH AND DEATH RATES

Birth rates in the country (Table 8.4) have shown a consistent decline,

**TABLE 8.3 : Percentage Distribution of Population by Age-group : All India  
Censuses 1961, 1971 and 1981**

Age-group	Percentage distribution population by age		
	1961	1971	1981*
0-4	16.5	16.2	12.6
5-9	13.2	14.1	14.1
10-14	11.3	11.9	12.9
15-19	9.8	9.8	9.6
20-24	8.7	8.4	8.6
25-29	7.8	7.4	7.6
30-34	6.9	6.5	6.4
35-39	5.9	5.7	5.9
40-44	4.9	4.9	5.1
45-49	4.2	4.1	4.4
50-54	3.4	3.3	3.8
55-59	2.6	2.6	2.5
60+	4.8	5.1	6.5
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

\* Excludes Assam and based on unsmoothed age data for 1981 census (5% sample)

Source : Registrar General, India.

**TABLE 8.4 : Birth and Death Rates and Expectation of Life at Birth (Census Estimates)**

Decade	Rate per 1000 population@		Expectation of Life at Birth		
	Birth	Death	Males	Females	Combined
1901-11	49.2	42.6	22.6	23.3	22.9
1911-21	48.1	47.2	19.4	20.9	20.1
1921-31	46.4	36.3	26.9	26.6	26.8
1931-41	45.2	31.2	32.1	31.4	31.8
1941-51	39.9	27.4	32.4	31.7	32.1
1951-61	41.7	22.8	41.9	40.6	41.3
1961-71	41.2	19.0	46.4	44.7	45.6
1971-81*	37.1	14.8	—	—	—

@By reverse survival method

\* Provisional

—Not Available

Source: Registrar General, India

barring a marginal increase in the two decades 1951-70. The 1971-81 Provisional Census Estimates place it at 37.1 per thousand population.

Expectation of life at birth has also shown an encouraging and consistent upward trend since the beginning of this century, and specially after independence was achieved. However, life expectancy of women is less than that of men.

India's crude birth and death rates (Table 8.5) are the most disquieting features of the demographic profile of the country. The death rate in rural Uttar Pradesh is still 16.9 while the corresponding figure for Kerala is 6.7. The figures for Madhya Pradesh and Orissa contrast very sharply with those of Punjab, Karnataka and Maharashtra. Similarly, in terms of crude birth rate, Uttar Pradesh, Madhya Pradesh and Haryana stand in sharp contrast with the figures of Kerala, Maharashtra and Tamil Nadu. Variations in the rates for rural and urban populations are also very marked.

**TABLE 8.5 : Estimated Annual Live Birth and Death Rates in States and Union Territories, 1981 and 1983**

States/Union Territory		Annual rate per 1000 population			
		Crude birth rate		Crude death rate	
		1981	1983	1981	1983
1	2	3	4	5	6
<i>States</i>					
1. Andhra Pradesh	C	31.7	30.7	11.1	10.3
	R	32.7	31.5	12.2	11.2
	U	27.5	27.7	6.5	6.9
2. Assam	C	33.0	34.1	12.6	11.7
	R	33.8	34.9	13.0	12.1
	U	23.2	23.7	8.0	6.7
3. Bihar	C	39.1	37.2	13.9	13.0
	R	39.7	37.7	14.7	13.5
	U	33.9	32.1	8.0	7.4
4. Gujarat	C	34.5	34.0	12.0	11.5
	R	36.1	35.2	12.4	12.8
	U	29.8	31.3	10.7	8.7
5. Haryana	C	36.5	35.9	11.3	9.0
	R	37.8	37.8	11.9	9.8
	U	29.6	29.7	7.6	6.5
6. Karnataka	C	28.3	28.7	9.1	9.2
	R	29.2	29.8	10.2	10.5
	U	25.7	25.8	0.1	5.9
7. Kerala	C	25.6	24.9	6.6	6.7
	R	26.0	24.9	6.7	6.7
	U	23.5	24.6	5.8	6.7

1	2	3	4	5	6
8. Madhya Pradesh	C	37.6	38.5	16.6	14.5
	R	38.8	40.1	18.0	15.9
	U	31.4	31.7	9.3	8.5
9. Maharashtra	C	28.5	29.6	9.6	9.1
	R	30.4	31.4	10.6	10.4
	U	24.5	26.2	7.4	6.6
10. Orissa	C	33.1	33.3	13.1	12.1
	R	33.4	33.7	13.5	12.5
	U	29.3	29.1	7.9	8.7
11. Punjab	C	30.3	30.2	9.4	9.5
	R	30.8	30.7	10.0	10.3
	U	28.5	28.8	7.1	7.3
12. Rajasthan	C	37.1	40.0	14.3	13.5
	R	38.3	41.5	15.8	14.4
	U	31.2	33.7	7.6	9.8
13. Tamil Nadu	C	28.0	27.8	11.8	11.6
	R	29.7	29.0	13.5	13.4
	U	23.9	25.6	7.9	8.2
14. Uttar Pradesh	C	39.6	38.4	16.3	15.7
	R	40.8	39.6	17.3	16.9
	U	31.5	32.8	9.9	10.4
15. West Bengal	C	33.2	31.9	11.0	10.2
	R	37.0	36.0	12.2	11.6
	U	20.0	21.3	6.9	6.6
16. Delhi	C	26.9	27.7	7.1	7.2
	R	36.0	33.1	9.2	8.4
	U	25.8	27.3	6.4	7.0
INDIA	C	33.9	33.6	12.5	11.9
	R	35.6	35.3	13.7	13.0
	U	27.0	28.0	7.8	7.7

C Combined

R Rural

U Urban

Source: Office of the Registrar General, India, Ministry of Home Affairs, New Delhi, *Sample Registration Bulletin*, Tables-1 and 2, Volume XIII, No. 2, June 1983 and Table B-4.1 from *Year Book 1983-84*, GOI, MOHFW.

### FERTILITY INDICES AND SOME SOCIAL AND ECONOMIC VARIABLES

Table 8.6 underlines the difference in the number of married couples

**TABLE 8.6 : Percentage Distribution of Married Couples (With Wife Aged Between 15-44 Years) by Age Group : Censuses 1961 and 1971—All India**

Age-group of wife (years)	Percentage distribution of married couples					
	Rural		Urban		Total	
	1961	1971	1961	1971	1961	1971
15-19	15.9	13.9	12.7	10.2	15.0	13.2
20-24	20.0	22.3	22.9	21.6	22.2	20.5
25-29	21.4	20.6	22.9	22.2	21.7	20.9
30-34	17.0	18.0	18.1	18.3	17.2	18.0
35-39	13.2	15.2	13.2	16.0	13.3	15.4
40-44	10.5	12.0	10.2	11.7	10.6	12.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

*Source :* Registrar General of India.

with wives aged between 15 and 44 years for urban and rural populations. It is clear that the rates for the 15-19 age group are particularly high and alarmingly so for the rural population.

Data on age-specific (general) fertility rates (i.e. number of children born per year per 1000 women in specific childbearing age-groups-15-44) for rural and urban populations are available only for the years 1972, 1976 and 1978. These are presented in Table 8.7. Consistently, the urban figures are lower than the rural figures. There has also been a consistent decline in the age-specific fertility rates for almost all the age-groups for the three years for which data have been presented. Data concerning age-specific (general) marital fertility rates (i.e. number of children born per year per 1000 *married* women in specific age-groups of childbearing age : 15-44 years) are available for the years 1972 and 1978, for both rural and urban populations. They are presented in Table 8.8. Age-specific marital fertility rates also show a decline and rural-urban differential.

A more detailed analysis of fertility rates in terms of selected socio-economic indicators – religion, caste, education and occupation, age at marriage and per capita expenditure—is presented in Table 8.9. This shows that Muslims have a higher gross reproduction rate (i.e. number of girls born to a married woman in her childbearing years), both for urban and rural populations, than Hindus. The rates among Sikhs are almost similar to those among Hindus, while Christians have marginally lower rates. It is significant to note that there is virtually no difference in the gross reproduction rate among in different castes. As is expected, all the fertility indices

TABLE 8.7 : Age Specific Fertility Rates 1972, 1976 and 1978 --All India

Age groups	Rural				Urban			
	1972	1974	1976	1978	1972	1974	1976	1978
15-19	111.5	104.9	87.0	73.2	75.5	62.2	64.6	42.8
20-24	260.9	262.2	260.2	237.1	233.5	203.0	213.7	191.4
25-29	256.8	258.2	250.8	239.2	237.6	204.3	197.5	185.0
30-34	205.1	200.7	190.9	177.2	175.1	140.5	133.9	117.0
35-39	142.0	125.8	126.3	115.9	93.8	79.3	73.6	66.9
40-44	56.3	61.2	58.9	54.5	37.7	32.5	28.9	23.9
45-49	31.2	23.3	17.3	21.6	15.6	12.7	8.3	8.3

Source : Registrar General, India,—Vital Statistics Division, Ministry of Home Affairs New Delhi—Survey Report on Levels, Trends and Differentials in Fertility, 1979, Statement 5; page 3.

TABLE 8.8 : Age Specific Marital Fertility Rates, 1972 and 1978—All India

Age groups	Rural		Urban	
	1972	1978	1972	1978
15-19	211.5	175.2	220.6	197.3
20-24	312.9	270.7	312.6	278.4
25-29	302.8	243.4	284.3	204.2
30-34	248.8	181.5	201.2	123.2
35-39	170.1	122.8	123.7	73.4
40-44	94.5	62.0	52.2	28.3
45-49	32.4	26.5	15.5	10.5

Source : Registrar General, India, Ministry of Home Affairs, New Delhi—Survey Report on Levels Trends and Differentials in Fertility, 1979; Statement 8; page 4.

show a consistent decline with increase in the educational level\*. Even with the very crude criterion of dividing the population between literates and illiterates, the rates are found generally lower for the literates, except in terms of marital fertility rates among rural literates. Decreases in fertility indices are also observed with increase in age at marriage and increase in per capita monthly expenditure. Similarly, the rates are much higher among non-workers, as compared to workers.

- \* *Total Fertility Rate* is the average number of children born to a women during her child-bearing years; *Total Marital Fertility Rate* is the average number of children born to a married woman during her child-bearing years.

TABLE 8.9 : Selected Indicators of Fertility by Socio-economic Levels (1978)—All India

	Rural/ Urban	Fertility indicators					
		Crude birth rate	General fertility rate	General marital fertility rate	Total fertility rate	Total marital fertility rate	Gross repro- duction rate
1	2	3	4	5	6	7	8
<i>(a) Region</i>							
Hindu	R	32.6	134.5	169.0	4.48	5.37	2.18
	U	25.6	104.1	137.0	2.97	4.37	1.44
Muslim	R	34.9	148.3	187.7	5.01	5.98	2.43
	U	30.6	122.9	176.6	3.98	5.53	1.93
Christian	R	25.7	99.0	153.5	3.34	5.07	1.62
	U	22.3	73.4	121.4	2.31	4.54	1.12
Sikh	R	29.6	120.7	180.5	3.97	5.66	1.93
	U	27.0	98.9	150.5	3.03	5.07	1.47
<i>(b) Caste</i>							
Scheduled Castes	R	34.6	143.3	174.9	4.78	5.56	2.32
	U	31.8	122.2	163.1	3.88	5.03	1.86
Scheduled Tribes	R	31.0	121.7	162.5	4.07	5.25	1.98
	U	29.9	111.3	154.9	3.62	4.97	1.73
Non-SC/ST	R	32.5	134.0	170.2	4.48	5.40	2.18
	U	26.5	97.5	141.3	3.04	4.53	1.46
<i>(c) Educational Level</i>							
Illiterate	R	—	140.4	167.7	4.74	5.48	—
	U	—	117.2	144.5	4.00	4.93	—
Literate and above but below Primary	R	—	122.3	175.9	3.85	4.98	—
	U	—	106.7	139.1	3.27	4.46	—
Primary and above but below Matric	R	—	99.2	198.0	3.61	4.90	—
	U	—	84.6	146.0	2.61	4.23	—
Matric and above	R	—	81.3	186.4	2.48	4.67	—
	U	—	75.4	144.1	1.88	4.01	—
All Literates	R	—	111.1	182.7	3.56	4.96	—
	U	—	88.9	142.8	2.58	4.27	—

1	2	3	4	5	6	7	8
<i>(d) Occupation</i>							
All Workers	R	—	112.6	148.5	3.85	4.91	—
	U	—	62.8	103.7	2.25	4.11	—
Non-workers	R	—	143.3	178.7	4.76	5.61	—
	U	—	102.3	144.4	3.24	4.65	—
			General marital fertility rate*			Total marital fertility rate	
<i>(e) Age at effective marriage</i>							
Below 18 years	R			168.5			5.41
	U			137.2			4.68
18-20	R			173.1			5.03
	U			152.6			4.06
21-23	R			177.9			4.67
	U			157.9			3.53
24 and above	R			172.3			4.12
	U			126.7			2.52
<i>(f) Per Capita Monthly Expenditure</i>							
Below Rs. 50	R			190.8			6.05
	U			183.0			5.72
Rs. 51-100	R			150.6			4.78
Rs. 101 and above	U			177.2			4.52
	R			106.9			3.49
	U			87.9			2.97

\*No. of live births per 1000 married women in 15-44 age-group per year.

Source : Registrar General, India, Ministry of Home Affairs, New Delhi—Survey Report on Levels Trends and Differentials in Fertility 1979 - Statements 14, 15, 16, 17, 18, and 19; page 6-8.

Apart from the influence of socio-economic levels on fertility indicators, fertility statistics show considerable variations in terms of different states (Table 8.10). In fact, as has been observed quite frequently on earlier occasions, each major state in India represents a different complex of certain interacting socio-economic variables\*. An understanding of such variations in such complex of variables is important for formulating strategies for influencing fertility indices with a view to controlling rapid population growth. These state-wise variations strongly call into question the wisdom of having a uniform pattern of approach for population control for all the states and union territories of the country. As expected, the indices presented in Table 8.10 are high for states like Uttar Pradesh, Madhya Pradesh, Haryana and Rajasthan, both for rural and urban populations, while they are much lower for Kerala, Karnataka and Maharashtra.

\*The complex would be understood even better in terms of more specific regional units.

TABLE 8.10 : Fertility Indices by States/Union Territories 1975

Sl. No.	State/Union Territory	General Fertility Rate			Total Fertility Rate			Gross Reproduction Rate		
		Rural	Urban	Combina	Rural	Urban	Combina	Rural	Urban	Combina
1.	Andhra Pradesh	148.6	120.7	143.6	4.8	3.7	4.6	2.3	1.8	2.3
2.	Assam	135.4	99.8	132.5	4.2	3.1	4.1	2.0	1.5	1.9
3.	Bihar	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4.	Gujarat	168.0	130.0	158.3	5.5	4.0	5.1	2.0	2.0	2.6
5.	Haryana	190.2	124.0	177.7	6.5	4.0	5.9	3.1	2.0	2.9
6.	Himachal Pradesh	142.7	85.1	139.8	4.4	2.5	4.3	2.1	1.2	2.1
7.	Jammu & Kashmir	152.2	84.5	138.7	5.2	2.8	4.7	2.4	1.3	2.2
8.	Karnataka	134.0	100.3	124.5	4.1	2.8	3.7	2.0	1.4	1.8
9.	Kerala	108.0	103.6	107.3	3.4	3.1	3.4	1.6	1.5	1.6
10.	Madhya Pradesh	191.7	136.1	183.1	6.3	4.3	6.0	3.1	2.1	3.0
11.	Maharashtra	128.0	123.0	126.0	4.3	3.7	4.4	2.0	2.0	2.0
12.	Orissa	142.2	132.2	141.5	4.7	4.1	4.6	2.2	2.0	2.3
13.	Punjab	145.7	118.5	139.5	5.0	3.9	4.7	2.3	1.9	2.3
14.	Rajasthan	171.6	137.6	165.7	5.7	4.4	5.4	2.7	2.0	2.6
15.	Tamil Nadu	133.1	98.1	121.8	4.2	3.0	3.8	2.1	1.6	1.9
16.	Uttar Pradesh	225.8	155.9	217.0	6.9	4.8	6.6	3.3	2.3	3.2
17.	West Bengal	N.A.								
18.	Delhi	180.6	104.1	111.6	6.0	3.2	3.5	2.8	1.6	1.7

N.A.—Not Available.

Source : Registrar General, India—Reports on Sample Registration System (1970-75).

## AGE-SEX-SPECIFIC DEATH RATES

Table 8.11 presents all-India age- and sex-specific death rates for 1977, for rural and urban populations. There are two features of this table which are of considerable significance for understanding the socio-economic and political dynamics of the country. These are the urban-rural differentials in terms of mortality rates for all the age-groups, and, in terms of differences in the rates for male and females, for both urban and rural populations. It may be noted that both 'rural' and 'urban' populations are in themselves very complex entities with many stratifications. However, even with such an obviously crude differentiation, the contrast comes out very sharply. The fact that the death rates of 0-4 years age group in rural populations is more than double that in the corresponding urban populations provides a dramatic indication of the unfavourable ecological, social, cultural and economic conditions of living in rural areas. As children in the age group 0-4 are biologically more vulnerable to adverse living conditions than others, they have to pay a particularly heavy price. Even though the death rates for rural populations in the age group 5-9 years are also three times those

TABLE 8.11 : Age-sex Specific Death Rates,\* All India, 1978

Age-Group	Rural			Urban			Combina		
	Males	Fema-les	Per-sons	Males	Fema-les	Per-sons	Males	Fema-les	Per-sons
0-4	48.9	57.9	53.2	25.5	27.2	26.3	44.7	52.1	48.3
5-9	4.2	5.5	4.8	1.5	1.5	1.5	3.7	4.7	4.2
10-14	2.1	2.2	2.2	0.9	1.1	1.0	2.0	2.0	2.0
15-19	2.2	3.3	2.8	1.4	1.7	1.6	2.1	3.0	2.5
20-24	2.9	4.5	3.6	2.3	2.8	2.5	2.7	4.1	3.4
25-29	3.7	4.5	4.0	2.4	2.7	2.6	3.4	4.1	3.7
30-34	4.3	4.2	4.2	2.4	2.9	2.7	3.8	3.9	3.9
35-39	5.5	5.0	5.2	4.3	3.4	3.9	5.2	4.7	4.9
40-44	8.0	7.3	7.6	5.4	4.2	4.9	7.4	6.7	7.1
45-49	11.4	7.7	9.6	11.3	7.2	9.4	11.4	7.6	9.5
50-54	17.6	13.4	15.6	17.5	11.3	14.7	17.5	13.0	15.4
55-59	27.4	20.5	24.1	24.6	17.1	21.1	26.9	19.9	23.6
60-64	43.7	32.8	38.3	38.3	30.1	34.2	42.7	32.4	37.5
65-69	58.3	49.4	53.8	48.3	36.4	42.3	56.5	47.1	51.7
70+	110.3	136.6	108.4	109.6	103.1	106.2	110.2	106.0	108.0
All Ages	14.9	15.8	15.3	9.6	9.1	9.4	13.8	14.5	14.2

\* Excludes Bihar and West Bengal.

Source : Registrar General, India, Ministry of Home Affairs, New Delhi, Sample Registration System.

for urban populations, in absolute terms, vulnerability to death decreases dramatically for both urban and rural populations as compared to the position in the case of the 0-4 groups.

Differences in the rates between males and females are present both for urban and rural populations. But the fact that the differences are particularly accentuated during the main child-bearing years in females in rural populations shows that certain culturally held values against females are in themselves mainly products of unfavourable living conditions. The superior biological capacity of females to survive becomes manifest only after passing the main child-bearing periods : 40-44 years in rural populations, and from a decade earlier, from 30-34 years onwards, for urban females.

### INFANT MORTALITY RATES AND SOME SOCIO-ECONOMIC FACTORS

The rates of infant mortality by sex for 1972, 1973, 1976, 1977 and 1978 as assessed by the Sample Registration System (SRS) (Tables 8.12, 8.13) show: (1) a consistent fall in the rates, both for males and females as well as for urban and rural populations; (2) the fall in the rates among females is much sharper than that among the males; and, (3) despite this relatively rapid fall in the rates among the females, the rates for females still remain significantly higher than those for males. Again, it is seen that the gap between the rates for males and females is much wider in rural areas than in urban areas. Finally, the 1978 survey showing infant mortality rates of 120 for males and 131 for females, with a combined rate of 125, underlines the gravity of the problem in relation to the state of health of children in India. In a large state like Uttar Pradesh, where as many as 205 out of the 1,000 children born died in the first year in 1975 (Table 8.13), the prime task for those initiating population control will be to find ways of reducing this colossal waste.

TABLE 8.12 : Infant Mortality Rates by Sex—All India

Year	Rural			Urban			Total		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
1972	141	161	150	85	85	85	132	148	139
1973	141	144	143	88	90	89	132	145	143
1976	133	146	139	78	82	80	124	114	129
1977	136	146	140	80	82	81	126	115	130
1978	132	143	137	74	75	74	123	111	127

Source : Registrar General, India, New Delhi—Sample Registration System (SRS).

TABLE 8.13 : Infant Mortality Rates by States and Union Territories (1976 to 1978).

			(per 1,000 live births)		
Sl. No.	State/Union Territory	Area	1976	1977	1978
1	2	3	4	5	6
<i>States</i>					
1.	Andhra Pradesh	R	127	136	127
		U	97	62	66
		C	122	125	117
2.	Assam	R	126	116	120
		U	100	95	86
		C	124	115	118
3.	Gujarat	R	159	147	131
		U	100	106	89
		C	146	138	122
4.	Haryana	R	122	123	117
		U	54	53	60
		C	112	113	109
5.	Himachal Pradesh	R	129	103	103
		U	56	53	62
		C	127	101	101
6.	Jammu and Kashmir	R	73	68	81
		U	26	24	51
		C	68	62	73
7.	Karnataka	R	99	89	90
		U	60	64	58
		C	89	83	82
8.	Kerala	R	58	49	45
		U	47	37	29
		C	56	47	42
9.	Madhya Pradesh	R	145	157	151
		U	88	88	87
		C	138	148	143
10.	Maharashtra	R	91	126	88
		U	61	63	63
		C	83	108	81
11.	Orissa	R	130	151	137
		U	81	85	80
		C	127	147	133
12.	Punjab	R	115	111	126
		U	75	78	76
		C	108	105	117
13.	Rajashtan	R	152	150	153
		U	73	92	66
		C	142	142	140

1	2	3	4	5	6
14.	Tamil Nadu	R	121	114	120
		U	81	79	63
		C	110	103	105
15.	Uttar Pradesh	R	184	174	184
		U	121	119	114
		C	178	168	177
<i>Union Territories</i>					
16.	Delhi	R	102	110	110
		U	45	67	64
		C	55	73	70
17.	Goa, Daman and Diu	R	80	62	61
		U	35	44	31
		C	69	58	54
<hr/>					
INDIA		R	139	140	137
		U	80	81	74
		C	129	130	127

R=rural; U=urban C=combined

The aggregated estimates for India exclude Bihar and West Bengal.

Source : Registrar General, India, Ministry of Home Affairs, New Delhi—Sample Registration System.

Table 8.13 also reflects the highly disadvantageous socio-economic levels of states like Uttar Pradesh, Orissa, Madhya Pradesh and Rajasthan in their much higher rates of infant mortality than those of Kerala, Karnataka, Maharashtra and Punjab (see also Table 9.13).

Table 8.14 gives more details—neonatal and post-natal mortality rates, in addition to infant mortality rates, for both urban and rural populations.

TABLE 8.14 : Mortality Indicators, 1976 to 1978, All India

Year	Crude death rate	Infant mortality rate	Neo-natal mortality rate	Post-natal mortality rate	Peri-natal mortality rate	Still birth rate
<i>Rural</i>						
1976	16.3	139	83.0	56.0	76.6	18.7
1977	16.0	140	88.0	52.0	69.5	16.8
1978	15.3	137	85.2	51.8	67.9	16.0
<i>Urban</i>						
1976	9.5	80	49.0	31.0	43.7	11.1
1977	9.4	81	42.0	39.0	35.4	8.7
1978	9.4	74	38.0	36.0	33.5	10.3
<i>Combined</i>						
1976	15.0	129	77.0	52.0	66.8	17.5
1977	14.7	130	80.2	49.8	63.7	15.5
1978	14.2	127	77.4	49.6	62.2	15.0

Source : Registrar General, India—Sample Registration System 1976-78; Table 3; page 36.

TABLE 8.15 : Selected Indicators of Infant Mortality by Socio-economic Categories (1978)—All India

Area	Sex		
	Males	Females	Persons
<i>(i) Infant Mortality by Sex and Rural/Urban</i>			
Rural	130	142	136
Urban	69	71	70
Total	120	131	125
<i>(ii) Infant Mortality by Religion</i>			
Religion	Rural	Urban	
Hindu	136	70	
Muslim	108	79	
<i>(iii) Infant Mortality by Educational level of women</i>			
	Rural	Urban	
Illiterate	132	81	
Literate but below Primary	105	59	
Primary and above	64	49	
Literates	90	53	
<i>(iv) Infant Mortality by Occupation of Women</i>			
	Rural	Urban	
Farmers, fishermen, hunters, loggers and related workers	127	119	
Production and related workers, transport equipment operators and labourers	194	121	
Workers	130	98	
Non-workers	123	63	
<i>(v) Infant Mortality by Mother's Age at Marriage</i>			
	Rural	Urban	
Below 18 years	141	78	
18—20 years	112	66	
21 years and above	85	46	

Source : Registrar General, India, *Survey Report on Levels and Trends of Differentials in Fertility, 1979*.

The most significant data in this context are given in Table 8.15, where infant mortality rates are presented in terms of certain socio-economic indicators—rural-urban, religion, educational levels of women, occupation of women, and age at marriage of women. Almost all through, it indicates a strong correlation between infant mortality rates and socio-economic levels. Infant mortality is directly linked to the level of education among mothers. In rural areas, mortality among the category of illiterates is 135; it is 105 amongst literates educated below primary school level; and is

only 64 among those who have completed primary education and above. It may, however, be noted that it is not being implied that it is only the educational level of women which is responsible for the decline in mortality. Educational level is but an index of the overall socio-economic status of the woman concerned. These trends are also reflected in terms of occupations and age at marriage. In fact, all these factors interact and it is virtually impossible to visualise them in isolation and they must all form indispensable components of a developmental package.

TABLE 8.16 : **Distribution of the Number and Percentage of Deaths by Major Cause Groups—India (Rural) 1976 to 1980**

Code No.	Major cause group (Prominent symptoms)	Percentages				
		1976	1977	1978	1979	1980
1.	Accidents and injuries	1.5	4.3	4.9	4.6	5.0
2.	Child-birth and pregnancy (maternal)	1.1	1.1	1.0	1.1	1.2
3.	Fevers	12.0	10.7	9.6	8.9	8.5
4.	Digestive disorders	9.2	10.6	9.3	9.7	9.3
5.	Coughs (Disorders of respiratory system)	20.9	20.6	20.6	20.3	20.0
6.	Disorders of the central nervous system	3.6	3.6	3.6	3.6	3.8
7.	Disorders of circulatory system	8.5	8.1	9.0	9.3	8.6
8.	Other clear symptoms	8.2	7.5	7.8	8.3	7.5
9.	Causes peculiar to infancy	12.5	13.2	13.0	13.5	13.6
10.	Senility	17.0	18.3	19.2	18.5	20.7
11.	The rest	1.9	2.0	2.0	2.2	1.8
Total No. Surveyed		14,699	15,019	13,826	16,848	17,672

Source : Report on Survey of Causes of Death (Rural)—1980.

MAJOR CAUSES OF DEATH IN RURAL INDIA

Table 8.16 gives a broad outline of the major causes of death covering the period 1976 to 1980. The data were obtained through the Model Registration Scheme (MRS) of the Registrar General of India. Even considering the gross categories under which the causes of death have been classified, the declines in deaths under 'Causes peculiar to infancy' and the rise in deaths due to 'Senility' are remarkable. The fact that the group 'Others' has shown a sustained decline indicates the much-improved precision of the enumeration of causes in the later years.

**TABLE 8.17 : Percentage of Deaths by Causes Related to Child Birth and Pregnancy (Maternal Deaths)—All India (Rural) : 1976-1980**

Specific Causes	1976	1977	1978	1979	1980
Abortion	11.6	8.2	11.0	11.7	12.5
Toxaemia	10.4	11.2	21.2	16.1	12.4
Anaemia	22.1	15.9	14.6	15.0	15.8
Bleeding of pregnancy and puerperium	17.2	20.6	18.2	20.0	15.8
Malposition of child leading to death of mother	8.6	9.4	9.5	10.5	13.4
Puerperal sepsis	13.5	18.8	12.4	11.7	12.4
Not classifiable	16.6	15.9	13.1	15.0	17.7
Total	100.0	100.0	100.0	100.0	100.0
Sample no. of deaths	163	170	137	180	209
Per cent to total death (Rural)	1.1	1.0	1.0	1.1	1.2

*Source* : Model Registration Scheme—survey of Causes of Death (Rural) 1980—A Report, Series 3, no. 13; Statement No. XV; page 33 by Registrar General, India, New Delhi.

More detailed mortality data are available for 1976-1980 under the head : 'Childbirth and pregnancy' (Table 8.17). While the rates do not show any remarkable variation through the five years, this table indicates the heavy price mothers have to pay because of such preventable conditions of puerperal sepsis, anemias and abortions. It again underlines the task that lies ahead in dealing with such easily preventable deaths among mothers as a prelude to dealing with the enormous problem of population growth in India.

## FAMILY PLANNING

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### THE FAMILY PLANNING MOVEMENT IN INDIA

As Desai (1983) has pointed out, concern about population growth was felt in India as far as back as 1891, when the Census Report invoked Malthus to contend that overpopulation was responsible for Indian poverty. Subsequent Census Reports up to 1951, continued to repeat this theme. Several Indian scholars also accepted overpopulation as the cause of India's backwardness, particularly in the economic field. For example, in 1916 P.K. Wattal propounded the view that a reduction of the birth rate was a precondition for a decrease in the death rate in general and in the infant mortality rate in particular, as well as for a rise in the standard of living of the people (Wattal 1916).

However, this overpopulation thesis was reviewed by several others (like Karve 1965, Mukherjee 1938, Ganguli 1938 and Gyanchand 1939). They argued that overpopulation was only a symptom of the underlying malady of arrested economic progress during British rule. They wanted the state to play a positive role in promoting economic and cultural progress. At the same time, they recognised the need for controlling population growth through the generation of social and economic conditions conducive to the general adoption of methods for limiting family size.

The All India Women's Conference advocated birth control as far back as in 1932 (Raina 1968) and the National Planning Committee of the Indian National Congress, set up in 1938, strongly supported family planning as a state policy (National Planning Committee 1949). After independence, in the very First Five Year Plan, the 'urgency of the problem of family planning' was clearly recognised (Government of India 1951). The findings of the 1961 Census dramatically brought home the high rate of population growth in India and the urgent need for controlling it. Responding to this, in the Third Five Year Plan, the

objective of stabilising the growth of population was posited as at the very centre of planned development (Banerji 1971a: 11). Following this, in the Fourth Plan, family planning found its place as a programme of highest importance.

There has been a very steep rise in the outlay on family planning in successive Five Year Plans (Table 4.2): from Rs. 1.0 million in the First Plan to Rs. 22 million in the Second, Rs. 249 million in the Third, Rs. 3844 million in the Fourth, and Rs. 4974 million in the Fifth. The Sixth Plan outlay for family welfare is Rs. 10,100 million.

In the fifties and in the early sixties, following the tradition of the planned parenthood movements of Western countries, family planning clinics were established in urban and rural areas in India. When, however, it was realised that the outreach of such clinics is very limited, again taking the cue from the community development movement in the United States, an extension wing was added to these clinics (Raina 1963). This led to the wide deployment of an enormous army of family planning extension workers. In the mid-sixties again there was substantial expansion of the programme, when the intrauterine device (IUD) was projected as a wonder device and a massive programme was undertaken to popularise its use (Government of India 1968a). When the IUD programme proved inadequate, a 'target-oriented time-bound programme, adopting the cafeteria approach' was adopted (Government of India 1968a: 3; Banerji 1971: 17). This involved: (a) offer of monetary incentives to doctors, motivators and acceptors; (b) mobilisation of government functionaries belonging to all departments, including revenue collection staff, for family planning work; and (c) exerting administrative pressure on field workers to ensure that they attained certain predetermined family planning targets. When this again proved inadequate, recourse was taken, in the early seventies, to the Mass Vasectomy Camp approach (National Institute of Family Planning 1973). This involved extensive use of the district administrative machinery, along with enhanced incentives and a massive publicity drive.

From such a set of policies and the feeling of frustration at their unvarying inadequacy, it was an easy step to the use of pressure and even force, along with monetary incentives, as 'legitimate' means to 'motivate' people to take to birth control (Government of India 1976a). There was a steady escalation in the use of pressure, culminating, during the Emergency of June 1975—January 1977, in what can only be described as thinly veiled compulsion on a very extensive scale (Banerji 1977b). The backlash of these measures was an important factor in the overthrow of the Union Government in the elections of March 1977. The government that replaced it as well as the one which followed the elections of January 1980, categorically ruled out use of coercion of any kind in implementing

the family planning programme. It was repeatedly emphasised that acceptance of family planning was voluntary (Government of India 1979a; Government of India 1981c; Government of India 1984b).

## POPULATION CONTROL POLICIES

India was the first country in the world to have a state sponsored population control programme. It has also perhaps the most extensive network of birth control agencies, along with extensive programmes of mass communication, training and research. In terms of investment on family planning as a percentage of national income, it also occupies a pre-eminent position. Perhaps it has also the distinction of being the first country in the world which proclaimed population control to be so urgent that it could not await improvements in social and economic fields. Indeed, it has often been asserted that substantial social and economic progress is possible only if population growth is curbed (Government of India 1976a; Wattal 1916).

If population policy implies taking active steps to relate population size to issues such as migration, urbanisation, manpower requirements, employment, education, social security and health services, such a policy was never given serious thought. At best, policies were confined to population *control* policy or, more appropriately, birth control policy.

As has been pointed out in Chapter 3, at the time of launching the national family planning programme in the early fifties, the Government of India had enunciated 'guiding principles' for the development of the programme. A decade and a half later, when the family planning programme had reached a distinct watershed, a new policy was formulated which underlined the need for having concurrent social and economic development as an important element of population control policy. Health, nutrition and family planning were visualised as a single package which, in turn, was part of the still bigger package of the Minimum Needs Programme of the Fifth Five Year Plan (Singh 1975: 2).

At the World Population Conference held at Bucharest in 1974, the then Union Minister of Health asserted (Singh 1975: 5):

Population policy is thus one of the several vital instruments for securing comprehensive social development and it cannot be effective unless certain concomitant economic policies and social programmes succeed in changing the basic determinants of high fertility. It has truly been said that the best contraceptive is development.

This policy was strongly endorsed by the then Prime Minister in her

address to the National Population Conference held in the same year in New Delhi (Sanyal 1975):

All workers of the family planning movement do not always fully appreciate the integral relationship between general development and family planning. When we reapportioned some funds to strengthen our rural health services, and there was a reduction in the percentage of the funds allocated under the separate head of family planning, there was an outcry. This was misrepresented by the international press to suggest that we were giving up our family planning programmes.

Yet another population control policy was formulated in April 1976 in the wake of the declaration of the National Emergency (Government of India 1976a). This included setting eight per cent of the central assistance to state plans specifically against performance in family planning, freezing representation in central and state legislatures on the basis of the 1971 Census for the next 25 years, raising the age at marriage to 18 for girls and 21 for boys, higher monetary compensation, higher priority for girls' education up to the middle level and to child nutrition. For the first time, the Union Government allowed some states, which felt that the facilities available to them were adequate, to initiate legislation for compulsory sterilisation.

As noted earlier, in March 1977 the new government categorically ruled out the use of force or coercion in any form in implementing what by then was renamed as family welfare programme. The government's views were expounded by the then Prime Minister in April 1977 in the following words (Desai 1977) :

The policy of population control is to be vigorously pursued but purely on a voluntary basis. During the past two years the programme became a sort of 'menace to the people', but in any programme of health, coercion will not help. When the people take to it willingly the programme will show much better results and the adoption will be in a more effective manner and it will also result in greater welfare of the people. The name 'family welfare programme' is, therefore, far more suitable and meaningful.

The Draft Sixth Five Year Plan (Revised) (1978-83) (Government of India 1979a : 48) stated that a population policy should reflect concern for the individual's as well as the community's dignity, needs and aspirations, and should be such as would deal with overall development issues and not merely population control:

At the heart of the population policy lie the questions of providing

to the Indian people in the shortest possible time a quality of life commensurate with the nation's resources.

High priority was to be given to programmes involving social restructuring—e.g. full employment, uplift of backward classes. Extensive efforts were to be made as part of a ten-year programme to create services which would have a direct bearing upon the family planning programme and creating the demand for such services by overseeing effective implementation of other developmental programmes and their better integration with the health and family welfare services. Enforcement of the age at marriage law, changes in the educational system as would create awareness about population problems and intensification of the involvement of women in programme implementation were also urged. The Plan document spoke against the establishment of a unified, standardised, monolithic pattern of health and family planning for the country and urged that it should be varied to meet differing conditions and take regional variations into account. Greater participation of state governments in policy formulation and implementation would lead to greater success, decentralisation, an intensified role for voluntary agencies and, most important, public participation, were considered essential to bring about the desired social change and attitudinal acceptance of family planning (Government of India 1979a : 44-50).

The 1980 report of the Planning Commission Working Group on Population Policy (Government of India 1980a) is yet another significant landmark. It stressed the need to bring about a synergistic relationship between population and development programmes and that a failure to do so would have grave social, economic and political consequences for the country. The Group laid down a long-term goal of a 'net reproductive rate' (NRR) of one on an average for the whole country by 1996 and in all the states by 2001. It suggested a detailed strategy for each state suited to its conditions and the level of its family planning achievements so far. The states were grouped into three categories : Group A with the lowest achievement so far and expected to reach the NRR target only by 2001-2002; an intermediate Group B expected to reach the target by 1996-97; and an advanced Group C expected to do the same by 1991-92. The basic strategies for achievement of the objectives were :

- (a) developing the necessary level of demand, and
- (b) provision of the supply of services of all kinds needed by the people.

The principal factors having important linkages with fertility control were identified by the Group as health care, education, water supply and economic factors such as employment and per capita income and urbanisation.

Given the political will and support and active involvement of the people, it was felt that the problem was amenable to solution. An institutional framework at the highest level in the Planning Commission and the Government of India was suggested 'to bring about a better integration at all levels'. A 'disaggregated communication strategy and a wide range of bio-medical and socio-economic research to support the population control programme' was also suggested. The Group also highlighted the need for the creation of an extensive data base and a comprehensive health information system.

The Sixth Five Year Plan (1980-85) (Government of India 1981b: 373-74) admits that the failure to attain birth rate targets adopted in earlier plans was

largely on account of our inability to carry forward the programme throughout the country with the active involvement of the people. Public enthusiasm and community participation in the programme which is necessary for its success has not been generated in adequate measure.

As a result of an extensive and intensive review of the programme, the Union Government laid down a new strategy for future implementation (Government of India 1982d : 61-62). Its important features and guidelines are :

1. Adoption of the 'small family norm' would continue to be promoted entirely on a voluntary basis.

2. Intensified efforts would be made to spread awareness and information about this concept by effective and imaginative use of multimedia and inter-personal communication strategies.

3. Couples would be free to choose whatever method was suitable to them.

4. Services would be supplied as close to the doorstep as possible.

5. The programme would continue to be an integral part of health care and socio-economic development efforts.

6. Facilities and efforts for rapid increase in female literacy would be intensified and expanded.

7. Population education would be extended to youth in schools and colleges and those out of school. It would be introduced in all workers, education and training programmes conducted by government agencies/departments and by the organised sector.

8. Elected representatives of the people at all levels would be closely associated with the programme and be provided all encouragement and support.

9. Linkages with the ministries and departments would be strengthened.

10. Laws relating to minimum age at marriage would be effectively enforced.

11. Maintenance of records of all marriages at the village or community level would be undertaken.

12. Because of the differences in situations and achievements among the various states and areas, a selective area-specific approach would be followed with special attention to states like West Bengal, Uttar Pradesh, Bihar, and Madhya Pradesh.

13. Close monitoring and follow-up would be ensured at all levels. Steps would be taken, in consultation with the state governments, to tone up administrative machinery and improve motivation and accountability of staff at the field level.

These elements have in fact been derived from the Draft Population Policy (Government of India 1981c), referred to in Chapter 3.

## ORGANISATION AND MANAGEMENT OF THE FAMILY PLANNING PROGRAMME

Owing to the many sweeping shifts in policies and perspectives, India's family planning programme has been subjected to many stresses and strains. These have necessitated substantial modifications in its organisation and management from time to time. However, through three decades of operation, while several radical changes in the programme have resulted in a number of additions to its organisational structure, action to weed out components rendered redundant have not been adequate. This has given a jumbled and unwieldy character to the organisational structure of the programme (Banerji 1980c). Only three of the major efforts at recognition are being discussed below to provide a background to the understanding of the present position.

### The 1963 Reorganisation

The shift from the clinic approach to the extension approach (Raina 1963) necessitated a major reorganisation of the programme in 1963, extending from creation of posts of *Parivar Kalyan Sahayaks* (Family Welfare Workers) and *Sahayikas* at the village level and male family planning field workers and a large addition of ANMs at the Sub-centre level, to the creation of posts of an additional Lady Doctor (exclusively for family planning) and a Block Extension Educator at the PHC level, the establishment of full-fledged Family Planning Bureaus at the district and state levels, with corresponding strengthening of the family planning organisation at the Directorate General of Health Services (DGHS) at the centre.

**Reorganisation in 1965-66 : The Report of the Programme Evaluation Organisation**

In 1965-66, the Programme Evaluation Organisation (PEO) of the Planning Commission studied some aspects of the implementation of the family planning programme (Government of India 1975) and made far reaching recommendations concerning the organisation of the programme at the central level, most of which were accepted. In April 1966, family planning was withdrawn from the purview of the DGHS and constituted into a separate Department of Family Planning in the Ministry of Health, Family Planning and Urban Development, as it was called at that time. The new department was headed by a Secretary. A Joint Secretary ran the secretarial wing and a Commissioner of Family Planning, with the rank of Additional Director General of Health Services, headed the technical wing. The Secretariat dealt with policy, planning, budget, grants, foreign assistance and administration. The Commissioner was assisted by high-level officers to 'take care of training, progress (of the programme), mass media, supplies, transport and services' (Government of India 1968a). The Commissioner was also assisted by six Regional Officers who maintained close liaison with the states, projecting the Union Government's viewpoint and policies, watching the implementation of the programme and catalysing the initiation of new activities.

The Regional Officers had under them Central Family Planning Field Units, one for each state under their jurisdiction. These units were used to augment the states' resources for training of field staff and for undertaking surveys and evaluation studies.

To lend prestige to the programme, help remove bottlenecks and ensure expeditious policy clearance, Cabinet Committees were set up at the Union and state levels. At the Centre, the Committee was presided over by the Prime Minister and those at the state level by the respective Chief Minister.

A Central Family Planning Council (CFPC), presided over by the Union Minister for Health, Family Planning and Urban Development, and including all state health ministers, periodically took stock of work done and gave policy and other directions for further implementation. Similar councils functioned at the state level.

**Reorganisation to Accommodate the IUD Programme**

In 1966, before even the extension approach became fully operational, a committee headed by the then Union Health and Family Planning Secretary, with three state Health Secretaries as members (all generalist administrators belonging to the Indian Administrative Service), and the

Commissioner Family Planning, as Member-Secretary, was constituted by the Central Family Planning Council. It was to 'review what additions and changes are necessary as a result of the greatly altered situation due to the IUD having come in the forefront of the programme, in the staffing pattern, financial provisions, etc.' (Government of India 1966). The recommendations of this committee led to some major organisational changes. There was a strengthening of the state health secretariats with the creation in each of a Special Cell headed by an Under Secretary to look after family planning work exclusively. Major additions in the State and District Family Planning Bureaus, beyond what had been recommended in the reorganisation plan of 1963 (Raina 1963) were urged. For the State Bureaus, it recommended strong leadership from a person with the rank of a Joint/Deputy Director of Health Services. Two separate divisions were created: one for administration and stores and the other for operations. At a later stage, two more divisions, the Education and Information Division and the Demography and Evaluation Division were added to the State Family Planning Bureaus. The creation of these divisions led to major addition of staff: an Assistant Director of Health Services, a Health Educational Officer, a Mass Media Officer, Medical Officers for IUD and other programmes, Statistical and Evaluation Officers, an Administrative Officer and a complement of secretarial staff.

At the district level also, the post of the District Family Planning Officer was upgraded to a Class I post and three distinct Divisions, Administration, Education and Information and Field Operations and Evaluation, were created at the District Family Planning Bureau with considerable enhancement of other staff also.

The implementation of the Multipurpose Workers Scheme in 1972 brought further changes in the organisation of the Family Planning Programme, as discussed in Chapters 3, 4 and 6.

### **Present Organisation**

Policy formulation in the field of family planning is done by the Union Government in consultation with the state governments. Consultation with the states takes place both through formal channels and through periodical meetings of the Central Council of Family Welfare. This Council is headed by the Union Minister of Health and Family Welfare and consists of all the Health and Family Welfare Ministers of the states and union territories (Government of India 1978b).

However, even though for nationally relevant schemes the Union Government retains the major initiative, the states have the primary responsibility for implementation of health and family welfare programmes. The organisational structure of the family welfare programme in the states is

closely integrated with the health care delivery system. The Union Government meets the full cost of the family welfare programme since it is a 'Centrally Sponsored Scheme'.

Activities of other central ministries in the area of family welfare (among railway, postal and armed forces personnel, for example) is coordinated and funded from the Union Family Welfare Department. The Department also funds work done by divisions of the Ministry of Information and Broadcasting in the field of family welfare. It is also directly responsible for administration of the seven institutions for training of trainers in family planning. It has seventeen offices located in different states which liaise with state government agencies in implementation of the programme.

At the state level also, for implementation of the family welfare and maternal and child health (MCH) services, the other departments are assisted by the State Family Welfare Bureau, as a part of the State Directorate of Health and Family Welfare Services.

At the Centre, an Additional Secretary-cum-Commissioner (Family Welfare) supervises programme implementation in the states and coordinates the activities of the secretariat and the technical divisions of the Department of Family Welfare, which are listed below.

The secretarial wing has the following divisions:

1. Policy Division
2. Aided Programme Division
3. Organised Sector and Voluntary Organisations Division
4. Plan Budget Division

The divisions under the technical wing are:

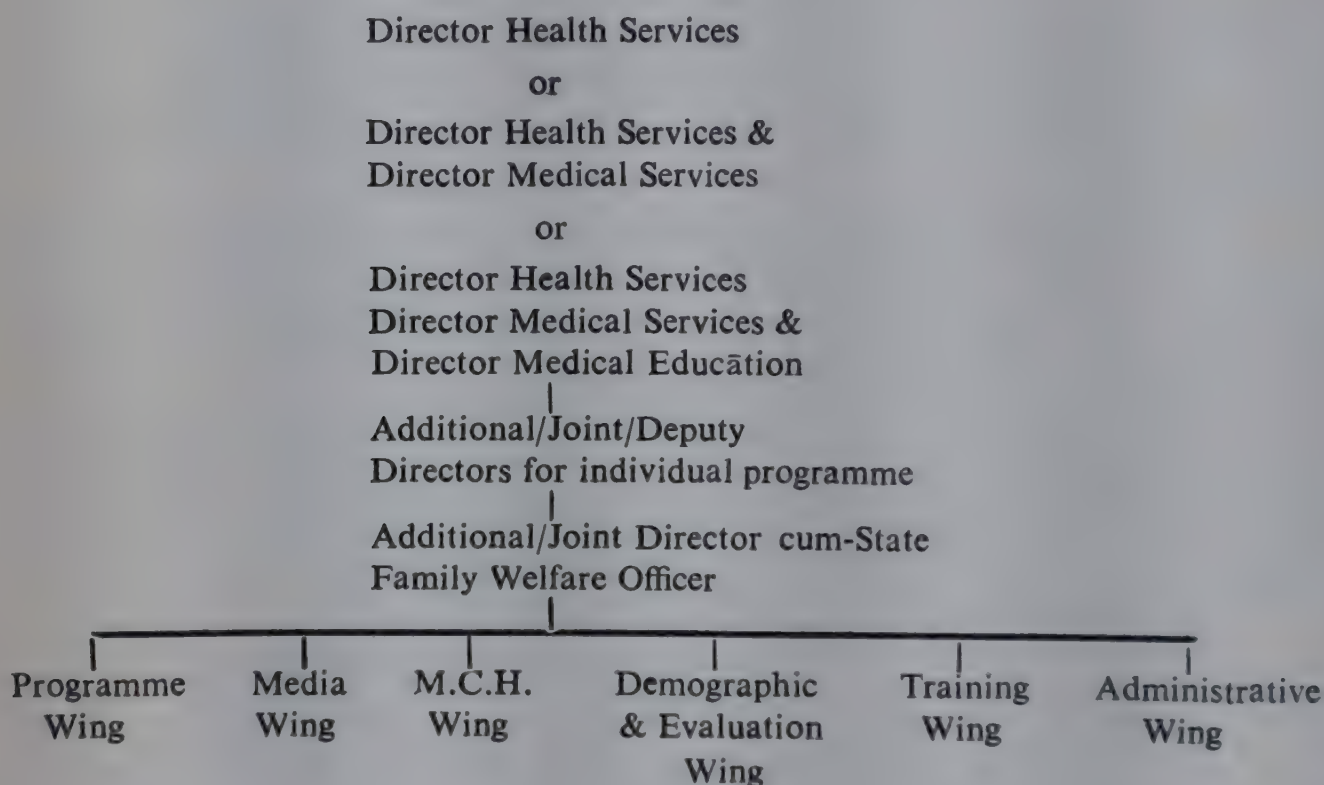
1. Programme Appraisal, Coordination and Training and Sterilisation (including Research) Division
2. Technical Operation Division
3. Maternal and Child Health Division
4. Evaluation and Intelligence Division
5. Mass Education and Media (including Population Education) Division
6. Nirodh (Condom) Marketing Division
7. Transport Division
8. Projects Division (Area Projects)

A Family Welfare Cell has been established for the Department of Health and Family Welfare of each state or union territory to coordinate family welfare activities between them and the centre and to support the

state directorates of health and family welfare. A Family Welfare Bureau has been set up in each state directorate of health and family welfare. Chart 9.1 sets out the organisation of the programme at the state level.

CHART 9.1

### Family Welfare Programme State Level Organisation



*Source:* Ministry of Health and Family Welfare, Government of India.

For the districts, there is a Family Welfare Bureau with technical and secretarial staff. By 1982, 374 Family Welfare Bureaus were functioning. Five were added in 1981-82 (Government of India 1983e : 204). Chart 9.2 shows the organisation of the programme at the district level.

At the PHC level, in addition to the general PHC set up, a family welfare component consisting of one additional physician and some supporting staff has been provided. A Family Welfare Centre has also been added as a building component of a PHC. However, the entire PHC functions as an integrated unit.

At the sub-centre level, additional sub-centres to reach a level to meet the specifications laid down under the Multipurpose Workers Scheme have been established. In 1978 the Government of India had laid down that there will be a sub-centre for a population of 5000 with a male and female MPW (Government of India 1978b). Chart 9.3 shows the organisation of the programme at the PHC level. Chart 9.4 shows the network of referral services.

CHART 9.2  
Family Welfare Programme District Level Organisation

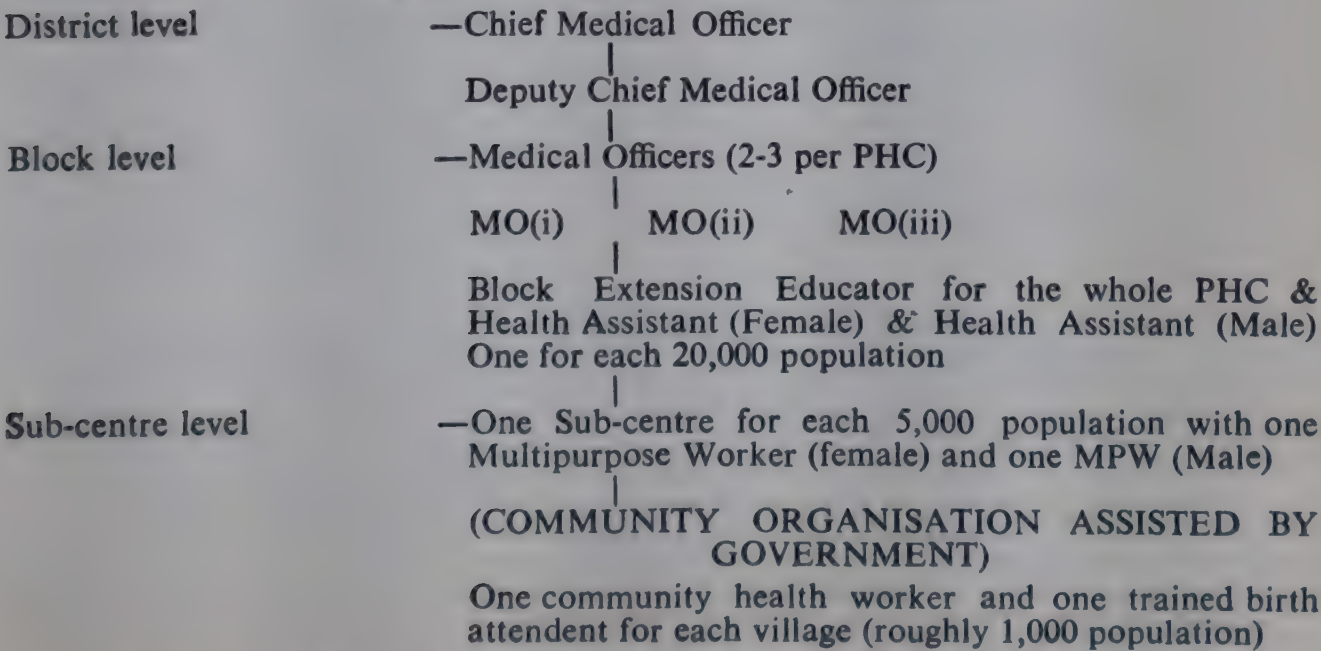
Chief Medical Officer  
or  
Civil Surgeon (Curative), &  
District Health Officer  
(Health & Family Welfare)  
or  
Civil Surgeon (Curative),  
District Health Officer (Health)  
& District FW Officer  
or  
Civil Surgeon (Curative), & District Health Officer & FW  
Officer (for health and FW & MCH Programmes)  
Assisted by an Additional  
District Health Officer & FW Officers

Note: Each District Officer has a separate office. The degree of Coordination varies.

Civil Surgeon	District Health Officer	District FW Officer
1. District Hospital	1. i/c of Rural Health Services & PHC	1. FW&MCH Programmes through rural family health Centres which are under Civil Surgeon
2. Urban FW Programmes	2. May or may not be i/c of Taluka Level Hospitals	
3. May or may not be i/c of all Taluka/Sub-divisional Level Hospitals		
3a. May or may not be i/c of Curative Services at PHC		

i/c: in charge  
Source: Ministry of Health and Family Welfare, Government of India.

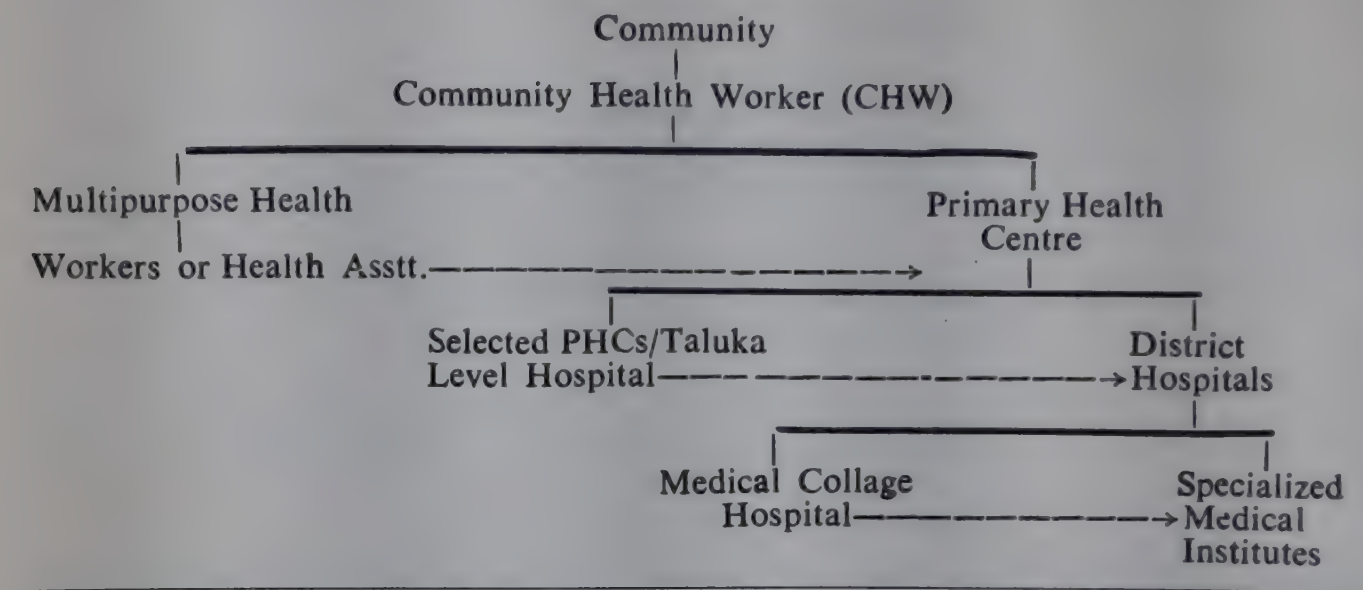
CHART 9.3  
Organisation of Primary Health Centre



Source: Ministry of Health and Family Welfare, Government of India.

CHART 9.4

Referral Services



Source: Ministry of Health and Family Welfare, Government of India.

AGENCIES PROVIDING FAMILY PLANNING SERVICES

Urban Family Welfare Centres

For urban populations, Urban Family Welfare Centres have been set up by state governments, local bodies, voluntary institutions and other institutions (Government of India 1978b). Chart 9.5 shows the staffing pattern and population coverage of Type I (10,000—25,000 population), Type II

CHART 9.5

Staffing Pattern of the Urban Family Welfare Planning Centres

	Population covered	Staffing pattern	
Type I	10,000 to 25,000	A.N.M.	1
		F.P. Field Worker (male)	1
Type II	25,000 to 50,000	F.P. Extension Education/	
		L.H.V.	1
		F.P. Field Worker (male)	1
		A.N.M.*	1
Type III	Above 50,000	Medical Officer (preferably female)	1
		L.H.V.	1
		A.N.M.	1
		F.P. Field Worker (male)	1
		Storekeeper-cum-Clerk	1

\*An additional Medical Officer is provided in the centres which function under the Post-Partum Programme.

Source: Ministry of Health and Family Welfare, Government of India.

(25,000—50,000 population) and Type III (above 50,000 population) of Urban Family Welfare Centres. These are essentially motivational and information centres, covering limited populations in usually well-defined and compact areas. They also provide some minimal services for supply of conventional contraceptives, IUD insertions and, sometimes, vasectomies and MCH services. Some of the Urban Centres are also attached to bigger medical institutions for support for sterilisation operations and for performing medical termination of pregnancy. For some Urban Family Welfare Centres which are attached to medical colleges and for some important hospitals at district level, Post Partum Centres (described below) have also been sanctioned.

In 1982, there were 25,068 Urban Family Welfare Centres (Type I-580, Type II-267 and Type III-1450); 259 of them are run by voluntary organisations, 299 by local bodies and 528 are attached to Post Partum Centres (Government of India 1983e : 197).

### **Rural Family Welfare Centres**

Rural Family Welfare Centres (RFWC) form the most important component of the family welfare organisation of the country. By March 1982, there were 5,428 RFWCs, with more than 57,368 sub-centres attached to them. The RFWCs and their sub-centres thus form a dense network of family planning institutions which cover the entire rural population of the country. Table 9.1, showing the distribution of Primary Health Centres, Rural Family Welfare Centres and Sub-centres in states and union territories, gives an idea of the coverage achieved by 1982. Table 9.2 shows the staff position in 1980-81 at Rural Family Welfare Centres and Sub-centres. It will be seen that it has been possible to put in position almost the entire staff required for the centres and sub-centres set up in the sixties and seventies. As in urban areas, there are many institutions in rural areas which contribute to family planning work, apart from their particular activities.

### **Family Planning Camps**

Organisation of camps for providing contraceptive services to large numbers of people at one place has been a significant feature of the family planning programme. In the beginning, these were relatively small vasectomy camps. With the advent of the IUD, larger camps were organised where IUDs were inserted in more than 1000 women per camp. Later still, camps for tubectomy operations were also organised (National Institute of Family Planning 1973). The culmination was Mass Vasectomy Camps in the early seventies, revived during the

**TABLE 9.1: Primary Health Centres, Rural Family Welfare Centres and Sub-Centres in Different States/Union Territories (As on 1-4-82)**

Sl. No.	State/Union Territory	No. of C.D. Blocks	No. of Primary Health Centres functioning on 1-4-82	No. of Rural Family Welfare Centres functioning	No. of Sub-Centres	Total
1.	Andhra Pradesh	324	421	420	6698	4409
2.	Assam	130	146	146	3139	879
3.	Bihar	587	611	587	10413	6445
4.	Gujarat	250	251	251	4151	2700
5.	Haryana	83	89	89	1685	1040
6.	Himachal Pradesh	69	77	77	724	725
7.	Jammu & Kashmir	92	90	82	774	398
8.	Karnataka	268	305	269	4214	3452
9.	Kerala	144	177	163	3388	1797
10.	Madhya Pradesh	457	665	460	7956	5576
11.	Maharashtra	426	454	427	6776	4041
12.	Manipur	26	31	29	235	152
13.	Meghalaya	24	24	22	179	97
14.	Nagaland	21	17	7	104	76
15.	Orissa	314	314	314	4447	2787
16.	Punjab	117	130	129	1907	2255
17.	Rajasthan	232	234	232	4630	2150
18.	Sikkim	10	15	15	37	46
19.	Tamil Nadu	374	405	383	5196	3832
20.	Tripura	17	28	32	337	133
21.	Uttar Pradesh	876	927	907	14537	11192
22.	West Bengal	335	335	335	6620	3099
23.	A. & N. Islands	5	2	—	26	1
24.	Arunachal Pradesh	48	45	—	984	—
25.	Chandigarh	1	—	1	11	4
26.	D. & N. Haveli	2	2	2	14	10
27.	Delhi	5	8	8	106	51
28.	Goa, Daman & Diu	12	15	15	138	97
29.	Lakshadweep	4	7	—	55	—
30.	Mizoram	30	14	14	6	142
31.	Pondicherry	4	12	12	55	52
Total		5272	588	6436	89536	57638

Source: GOI, Dept. of FW, MOHEW, *Year Book of 1982-83*.

**TABLE 9.2: Staff-Position at Rural Family Welfare Centre and Sub-Centres in Different States/Union Territories**  
(As on 30-6-1982)

Sl. No.	State/Union Territory	No. of Units functioning on 1-4-82 Rural F.W. Centres at P.H. Cs.	Medical Officer		Block-Extension Education		Lady Health Visitor		Auxiliary Nurse Midwife		Family Welfare Health Asstt.	
			R	P	R	P	R	P	R	P	R	P
1	2	3	4	5	6	7	8	9	10	11	12	13
1.	Andhra Pradesh	420	420	408	420	420	477	420	2329	1934	1788	1528
2.	Assam	146	146	146	146	143	146	—	327	244	667	46
3.	Bihar	587	587	501	587	587	599	310	2985	2158	2536	1008
4.	Gujarat	251	251	234	251	239	275	249	1351	1230	960	601
5.	Haryana	89	89	80	89	87	119	85	565	565	410	302
6.	Himachal Pradesh	77	77	77	77	35	77	57	227	153	161	19
7.	Jammu & Kashmir	82	82	82	82	82	82	82	186	107	188	77
8.	Karnataka	269	269	229	269	230	352	250	1677	1007	1109	511
9.	Kerala	163	163	163	163	163	330	280	1485	1263	899	885
10.	Madhya Pradesh	460	460	460	460	438	460	460	2059	2416	1744	1350
11.	Maharashtra	427	427	427	427	427	574	420	2724	2015	1735	—
12.	Manipur	29	29	27	29	29	29	27	36	29	46	27
13.	Maghalaya	22	22	10	22	16	22	5	44	34	43	18
14.	Nagaland	7	7	—	7	—	7	—	15	7	2	—

1	2	3	4	5	6	7	8	9	10	11	12	13
15.	Orissa	314	314	309	314	269	362	163	1762	1010	1005	622
16.	Punjab	129	129	119	129	124	158	105	760	554	517	330
17.	Rajasthan	232	232	228	232	225	303	180	1446	1112	1061	693
18.	Sikkim	15	15	12	15	10	15	12	25	12	40	—
19.	Tamil Nadu	383	383	301	383	256	460	352	2224	1815	1437	1160
20.	Tripura	32	32	26	32	5	32	—	41	25	69	10
21.	Uttar Pradesh	907	907	907	907	907	1125	902	5408	6714	3797	3326
22.	West Bengal	335	335	212	335	213	314	334	1591	994	1667	547
23.	A & N Islands	—	—	—	—	—	—	—	1	7	4	—
24.	Arunachal Pradesh	—	—	—	—	—	—	—	—	10	—	—
25.	Chandigarh	1	1	1	1	1	1	1	2	2	1	1
26.	D & NHaveli	2	2	—	2	—	2	2	3	4	4	—
27.	Delhi	8	8	5	8	5	8	5	19	25	21	5
28.	Goa, Daman & Diu	15	15	15	15	15	15	15	20	21	32	15
29.	Lakshadweep	—	—	—	—	—	—	—	—	—	—	—
30.	Mizoram	14	14	6	14	7	14	14	24	14	14	—
31.	Pondicherry	12	12	10	12	3	12	7	16	11	11	11
Total		5428	5428	4995	5428	4936	6370	4735	29352	25492	21989	13092

R: Required as per pattern

P: In position

Sources: GOI, Dept. of FW, MOHFW, Year Book 1982-83.

intensified family planning drive of 1976-77 (Banerji 1980c). Of late, with the popularisation of the laparoscopic technique of tubectomy, this method is also being offered to a large number of acceptors in camps (Government of India 1984a: 1790).

### Provision of Sterilisation Beds

To make facilities for tubectomy operations available at district or taluka levels and in medical institutions and centres run by local bodies and voluntary organisations, grants are provided for setting up sterilisation beds. Table 9.3 shows statewise distribution of sterilisation beds by the ownership status of institutions. An interesting feature of this distribution is that as many as 1310 out of 2027 sterilisation beds are in the voluntary

**TABLE 9.3: Statewise Number of Beds Under Sterilisation Bed Scheme by the Ownership Status of Institution as on 1-4-1983**

Sl. No.	State/ Union Territory	Govern- ment	No. of Sterilisation beds in institutions run by		
			Local Bodies	Voluntary Organisa- tions	Total
1.	Andhra Pradesh	320	—	203	523
2.	Assam	—	—	10	10
3.	Bihar	—	—	70	70
4.	Gujarat	82	—	282	364
5.	Haryana	—	—	47	47
6.	Jammu & Kashmir	—	—	12	12
7.	Karnataka	255	—	109	364
8.	Kerala	—	—	35	35
9.	Madhya Pradesh	10	—	30	40
10.	Maharashtra	—	45	213	258
11.	Punjab	5	—	—	5
12.	Rajasthan	—	—	22	22
13.	Tamil Nadu	—	—	149	149
14.	Uttar Pradesh	—	—	43	43
15.	West Bengal	—	—	74	74
16.	Delhi	—	—	11	11
Total		672	45	1310	2027

Source: GOI, Dept. of FW, MOHFW, Year Book 1982-83.

TABLE 9.4: All India Post Partum Programme

Year	No. of Medical Institutions/ Hospitals covered
<i>(i) No. of Medical Institutions/Hospitals covered under Post Partum Programme.</i>	
1969-70	59
1971-73	65
1973-74	131
1975-76	69
1976-77	125
1977-78	52
1978-79	23
1982-83	30
Total	554
<i>(ii) Type of Institutions Covered</i>	
1. Medical Colleges	104
2. Post-Graduate Medical Institutions	2
3. District Hospitals and other Government Hospitals including ESI and Central Sector Institutions.	380
4. Local Bodies	26
5. Voluntary Organisations	42
Total	554
<i>(iii) Category of Centres</i>	
1. Type A-Medical Colleges/Institutions conducting 3000 or more obstetrics (OB) and abortion (AB) cases annually.	192
2. Type B-Medical Institutions conducting less than 3000 but 1500 or more OB & AB cases annually.	109
3. Type C-Medical Institutions conducting less than 1500 OB & AB cases annually.	253
Total	554

Source: GOI, Dept. of FW, MOHFW, Year, Book 1982-83.

sector. In addition, 1798 beds are also providing similar facilities under the Post-Partum Programme. The institutions concerned get a recurring annual grant of Rs. 2,400 per bed, subject to fulfilment of a target of 45 tubectomies per bed per year. (Government of India 1978a).

### Post-Partum Programme

The All India Hospitals Post-Partum Programme was introduced in the national family planning programme with the following objectives:

1. To provide advice and service on contraception primarily to obstetrics and abortion cases attending a hospital as well as to other patients in the hospital.

2. To involve all departments and staff of the hospitals, besides the department of obstetrics and gynaecology, in family planning work.

3. To conduct teaching and training in family welfare to undergraduate and postgraduate medical students and to provide in-service training to paramedical and medical personnel.

4. To improve maternal and child health services of the hospital.

5. To extend contraceptive services and family planning education to the general community in the vicinity of the hospital.

The programme was started in 1969-70 with a coverage of only 59 institutions. By 1983, there were 554 institutions, covering almost all the medical college hospitals, district hospitals and leading maternity hospitals of the country (Government of India 1983e : 234).

In order to detect early cases of cervical cancer and other precancerous lesions among women attending Family Welfare Centres or Post-Partum Units, the Government of India, in 1981-82, approved six more medical colleges for setting up of PAP Smear Testing Units, thus extending this facility to 25 institutions in the country.

In order to bring this programme nearer to the doorsteps of needy families, attempts are being made to expand it to rural and semi-urban areas. During the Sixth Plan it is intended to expand this programme to cover 300 sub-divisional hospitals.

Table 9.4 gives the details of the All India Post-Partum Programme in terms of the number of medical institutions, hospitals covered, type of institutions covered and category of centres. Since the inception of the programme, it has covered (by 1982-83) 8.37 million obstetric cases, 2.62 million cases of abortion (both induced and spontaneous) and enrolled 4.571 million family planning acceptors (Government of India 1983e : 236).

### **Family Planning in the 'Organised' Sector**

Throughout the operation of the family planning programme, special efforts have been made to provide services to various organised groups like employees of ministries and departments of the Government of India (e.g. railways, defence, post and telegraph), and industrial undertakings, both in the public and private sectors including plantations, coal mines, and also through labour unions and chambers of commerce. Services are also being provided through the extensive network of hospitals and dispensaries of the Employees' State Insurance Corporation (Government of India 1968a).

The Indian Railways, the largest public sector organisation in the country, runs 104 hospitals, 668 Health Units, 62 Family Welfare Centres (FWC), and 38 Sub-centres. During 1982-83, these units had performed 23,300 sterilisations and 4,876 IUD insertions. Comprehensive family welfare and maternal and child care services are provided to the employees (Government of India 1984a : 205).

The Ministry of Defence runs 139 Family Welfare Centres in the armed forces hospitals, which provide all services (Government of India 1984a : 206).

The Ministry of Labour has a special cell in its Welfare Wing to coordinate family welfare work. The programme is being executed through the UNFPA/ILO assisted projects on population education and family welfare (Government of India 1984a : 204-07).

### **Supply of Conventional Contraceptives**

The promotion of conventional contraceptives, viz. Nirodh (condom), jellies, foam tablets and diaphragms, has continued throughout and are supplied free of cost. During the past decade supply of oral pills is included in the programme.

Nirodh continues to occupy a pivotal position among the contraceptives offered, claiming almost 90 per cent of the total conventional contraceptives users. Of the estimated expenditure of Rs. 31.7 million on the conventional contraceptives during 1981-82, the expenditure on Nirodh was expected to be Rs. 30.8 million (Government of India 1982d : 67).

### **Nirodh Commercial Distribution Scheme**

This is a social marketing programme which was started in 1968-69. The objectives are :

(1) To popularise the condom (Nirodh) as a safe non-clinical method of contraception among the masses, by making it available at a highly subsidised price along with daily necessities.

(2) To market the condom as a consumer product through a large number of retail outlets, easily accessible to the public.

Under the scheme, the Department of Family Welfare procures stocks from indigenous sources and stores them in various Government Medical Store Depots. The actual marketing is done by twelve well-known consumer goods manufacturing companies, agencies like Super Bazars, co-operative stores and state civil supply authorities. Nirodh is also available through stalls at railway stations all over India. Negotiations are on with the Posts and Telegraph Department for using post offices as outlets. There are about 400,000 retail stores selling Nirodh all over India (Government of India 1982d : 61).

Starting with a sale of about 15.74 million pieces in 1968-69, the sale touched an all time high of about 162.70 million pieces in 1982-83. In order to broadbase the marketing of commercial Nirodh and to influence consumer opinion in its favour, an intensive multi-media campaign is being carried on through the press, radio, television, the Films Division and also the Mass Mailing Unit of the Union Ministry of Health and Family Welfare.

With a view to rapidly increasing the acceptance of Nirodh for contraception, particularly in the rural areas, a Depot Holder Scheme has been implemented in a phased manner since April 1981. Under this scheme Depot Holders supply Nirodh to users at 50p. per pack of six pieces and retains the entire proceeds as incentive. The scheme is operated through the Village Health Guides (formerly Community Health Workers) and the Multipurpose Workers. They will not only sell Nirodh to the couples, but will also create a suitable climate to increase the number of users by persuasion. This is now in operation in Gujarat, Haryana, Maharashtra, Orissa, Uttar Pradesh, Madhya Pradesh, and West Bengal (Government of India 1984a : 177).

### **Medical Termination of Pregnancy (Induced Abortion)**

Induced abortion under the terms of Medical Termination of Pregnancy Act, 1970 in women requiring such services, is carried out by qualified and trained doctors. It is a health care measure which will help to reduce maternal morbidity and mortality resulting from illegal abortions performed by untrained persons. Induced abortions under this programme are conducted in government hospitals and approved private institutions. To increase the number of trained personnel in this field, doctors belonging to various organisations are being trained in MTP techniques in 161 institutions belonging to the Post-Partum Programme, including medical colleges and maternity/district hospitals. 970 doctors were trained during 1982-83 and the number of doctors trained in the technique since

the inception of the programme is 9,931 (Government of India 1984a : 178). By 1983, 2,913,762 operations have been performed, 506, 230 being performed in 1982-83 (Government of India 1983e : 150).

### **Oral Pills**

Oral pills are distributed free of cost to acceptors under the National Family Planning Programme. These are supplied to states, union territories and voluntary organisations as per their requirements. To increase the use of oral pills in the country it has been decided to allow paramedical personnel of both government and non-government organisations to distribute them to acceptors under the overall guidance of qualified doctors who would examine the acceptors within three months of the commencement of taking the pills. It is also proposed to allow the Village Health Guides to distribute them (Government of India 1984a : 175). The number of oral pill users was 178,501 in 1982-83, as against 119,708 in 1981-82 (Government of India 1983e : 143).

### **Tubectomy by Laparoscopic Method**

Laparoscopic tubectomy is becoming increasingly popular in India. To cope with the demand for personnel trained in the technique, training facilities have been strengthened. Technical advice is also being rendered to the states in organising their own training facilities for medical and paramedical staff. By November 1983, 1395 teams have been trained and 956 laparoscopes are available in the country (Government of India 1984a : 180-82). From the data about the technique used in 3.11 million tubectomy operations performed in 1982-83, the laparoscopic method was used in as much as 50 per cent of the cases (Government of India 1984a : 213). This might be yet another reason why in 1982-83 vasectomies accounted for barely 14.5 per cent of the 3.98 million sterilizations and why the 42.5 per cent increase over 1981-82 was almost exclusively accounted for by increase in tubectomies (Government of India 1984a : 214).

### **Changing Emphasis on Methods Used for Family Planning**

At the start of the programme in the early fifties, stress was only on promotion of the rhythm method. It was later shifted to foam tablets. Sterilisation of males (vasectomy) and use of condoms were popularised as methods only towards the end of the fifties and in the early sixties. The advent of the IUD in July 1965, can be regarded as yet another turning point. Tremendous enthusiasm was whipped up, both among the

family planning workers as well as among the masses, and it was placed at the very centre of the family planning movement (Banerji 1980c).

It was, however, realised later that about half of the eligible couples had already had more than three children and it would be more desirable, from a demographic point of view, for them to undergo sterilisation operations. Meanwhile, there was also a very sharp decline in the popularity of IUD among the people, presumably because of complications, particularly vaginal bleeding and back pain. This once again gave the central place to sterilisation. Later, oral pills were also made available and today, as just mentioned, they are distributed free of cost to acceptors under the programme. Laparoscopic tubectomy and medical termination of pregnancy are the other methods in current use. Abortion laws have been liberalised to provide easier access to medical termination of pregnancy.

## PROMOTION OF THE SMALL FAMILY NORM

### Education and Motivation

The importance of education and motivation was brought into the limelight when the traditional clinic approach was found to be most inadequate. 'Extension' wings were added to the clinics in 1963 in a bid to make them more effective (Raina 1963). This required a major administrative effort. It was planned to have one Block Extension Educator at each of the more than 5000 PHCs, to be assisted by one male family planning field worker (for every 20,000 population) and one ANM (for every 10,000). Under the Multipurpose Workers' Scheme, it is planned to have a male and a female MPW for every 5000 population.

Clinics in urban areas and family planning services of the organised sector were also strengthened by the inclusion of extension staff. To provide supervisory support, senior posts of extension educators were also created at the district and state levels. Special efforts were and are being made to secure participation of the local leaders in the communities. One Honorary Education Leader was assigned to each state, district and block. At the village level, provision was made for employing *Parivar Kalyan Sahayaks and Sahayikas* (Raina 1963).

Extension education work was intensified in 1980-81. Orientation trainings camps were held on a large scale in villages and slum areas of big cities, the main purpose being to equip local leaders to undertake motivational activities more effectively and make the programme at the grass roots 'a programme of the people, by the people and for the people' (Government of India 1982d : 73).

An extension worker's kit consisting of charts, models and other visuals was developed for use of BEEs and other field workers, and was produced in sufficient quantities to be supplied to all BEEs, Lady Health Visitors and ANMs.

### **Population Education**

Population education has become an important plank in the education and motivation policy for family planning (Government of India 1982b : 73-74). The National Population Education Project launched by the Ministry of Education in 1979 in ten states seeks to make population education part of the school syllabus. Population education activities are also being intensified in various other development departments of the government and at higher education levels, in adult education and continuing education.

### **Mass Education and Publicity**

Expertise from the field of mass communication was brought into the family planning programme on a very massive scale a few years after the adoption of the extension approach. In fact, this aspect of family planning has been gaining increasing importance over the years. Separate units for mass education and information were set up at the central, state and district levels.

The strategy has been to flash continuously and repeatedly a few meaningful, positive and understandable messages to the public through all modern mass communication media, and, more importantly, through the traditional cultural media to which people are accustomed and in which they participate (Government of India 1968a).

One of the most significant features of this mass communication programme has been the degree of support that has been mobilised from the mass media units of the Ministry of Information and Broadcasting. All India Radio (AIR), the Field Publicity Organisation, the Song and Drama Division, the Directorate of Advertising and Visual Publicity (DAVP), the Films Division, etc. The drive for mass communication and publicity soon acquired so much momentum that it was even hoped by practitioners of mass communication within the country and their consultants from abroad that a very intensive mass communication drive might itself generate enough motivation among the population to make a substantial impact on the birth rate. Just as there was a 'clinic' phase, an 'extension' phase, an 'IUD' phase and a 'time-bound target' phase, one could speak of the late sixties as a 'mass communication' phase of the family planning programme (Kakar 1978 : 22).

The outlay for mass communication for the Fourth Plan amounted to Rs. 321.1 million, which in the context of current prices considerably exceeds the corresponding Sixth Plan outlay of Rs. 320 million (Government of India 1982d : 73-74). The symbol of the inverted red triangle and the 'visual' of a man, a woman and two children, was introduced all over the country from mud-walls in villages to telephone and telegraph poles in towns and cities. The intention was to establish in the public mind a clear identification of the programme. These were reminders to the people that family planning was part of the scene around them. The symbol and the poster also identified clinics which provided family planning services.

As mentioned earlier, extensive use of different media of mass communication was also a major element in the mass vasectomy camp approach of the early seventies. However, the failure of this approach to yield the expected results also led to considerable rethinking about the strategy for mass communication. These analyses culminated in the formulation of a new family planning communication policy in 1974 (Kakar 1978: 23). One major element of the policy was the establishment of a high powered Family Planning Communication Board to involve professionals from mass media in other departments of the Union Government in family planning promotional efforts. The Union Minister of Health and Family Welfare was the Chairman and the Union Minister of Information and Broadcasting was its Vice-Chairman. All development departments of the government as well as eminent communicators, demographers and social scientists were associated with the Board.

At the state and district levels, the mass education and media organisations were expected to perform complementary functions. A major element of the policy was the recognition of the fact that family planning cannot be promoted merely by rapidly projecting a few messages to promote acceptance of various contraceptive methods. Messages to promote acceptance of contraception had to become a part of a much wider range of messages which promote developments across a wide range of social and economic fields including health, maternal and child health, including nutrition, water supply, status of women and various forms of education which are closely related to the generation of the desire for a small family (Kakar 1978: 25).

The Planning Commission's Working Group on Population Policy, broadly agreeing that with this approach, pleaded for a three pronged motivational strategy:

- (a) Strengthening of the climate in favour of the programme through use of mass communication;

- (b) increasing acceptance through making use of group situations and interpersonal communication; and
- (c) induction of population education in the formal and non-formal systems of education already in vogue.

The Group was not in favour of high-cost media. In view of the extensive outreach of the radio, which includes over 90 per cent of the population within its listening zone, the Group favoured its increasing use. It also suggested a differential communication strategy for specific target groups, such as agricultural and landless workers, industrial workers, plantation workers, urban slum dwellers, etc. It also identified the need for a communication strategy which is specifically geared to the aspirations of younger age groups.

An indication of the magnitude of the efforts that are being made to promote the programme through communication media is the fact that in 1977-78 the central media units alone put across about 20,000 items in various forms over All India Radio. It also organized 8000 song and drama performances, 36,000 film shows and 150 exhibitions in different parts of the country. The combined print order of the material that was produced centrally exceeded 5 million (Kakar 1978 : 23-24). This was despite the fact that during the proceeding year family planning had to take a back seat in reaction to the forced pace of the family planning drive during the Emergency.

Along with the establishment of media and extension organisations in the Union Department of Family Welfare and its counterparts in the states, special staff and other inputs were provided to the media units of the Union Ministry of Information and Broadcasting for the exclusive purpose of promoting family planning amongst people. These inputs included 36 planning and extension units in the Directorate of Advertising and Visual Publicity, 30 Field Publicity Units in the Directorate of Field Publicity and six large units with sizeable groups in the Sound and Drama Division. The Press Information Bureau and the Photo Division were also suitably strengthened (Kakar 1978 : 22). The understanding with the Ministry of Information and Broadcasting was that, while the new family planning units assigned to them would promote family planning exclusively, other units (their number runs to 100) under their control would also take up family planning motivational work throughout India as part of their normal functions.

### **Incentives**

The decisions in 1956 to provide 'compensation' to acceptors of family planning to meet their travel expenses and loss of wages, to pay 'fees' to

motivators and doctors, gave a new twist to the programme. A provision had been made to give to the states a lump sum of Rs. 11 for each IUD insertion, Rs. 30 for each vasectomy performed and Rs. 40 for each tubectomy, to meet expenses (Government of India 1968a).

The rates of compensation money given under the sterilisation programme were revised several times. Today the total amount given for every tubectomy is Rs. 200 and for a vasectomy Rs. 180 (Government of India 1982d : 64). Table 9.5 gives the details.

**TABLE 9.5: Revised Rates in Tubectomy and Vasectomy Operation**

	Tubectomy		Vasectomy	
	Existing Rs.	Revised Rs.	Existing Rs.	Revised Rs.
Amount for Acceptors	70	100	70	100
Drugs and Dressings	25	25	15	15
Diet	30	30	10	10
Transport	15	15	15	15
Misc. (including motivators fees)	30	30	40	40
	170	200	150	180

#### **Revised Break-up for Compensation For IUD**

	Existing Break-up (Rs.)	Revised Break-up (Rs.)
1. Payment to Acceptor	9.00	9.00
2. Drugs & Dressings	2.50	2.50
3. Contribution to fund for ex-gratia relief	0.50	—
4. Miscellaneous Purposes Fund (including payment to motivator)	—	0.50

*Source: GOI; Dept of FW, MOHFW, Year Book 1982-83.*

#### **Fixation of Targets**

Fixation of targets represented another shift. In 1966-67, the programme became a 'target-oriented', 'time-bound' programme (Government of India 1968a). Each field worker was assigned a definite target, usually proportional to the population he was required to cover, and his perfor-

mance was judged according to the degree to which he attained the target. States began to exert various pressure on field workers to ensure target fulfilment, including threat of termination of services. This culminated in the mobilisation of state machinery, including the law and order machinery, to force people to undergo sterilisation during the Emergency.

## TRAINING

The institutions set up to cope with the enormous task of training various categories of personnel required for implementation the family planning programme are as outlined below (Government of India 1978b).

1. There are seven Central Training Institutions for training of regional training centres and district level medical and media trainers. These institutions also carry out activity-oriented research and develop training materials, manuals and teaching and extension aids.

2. Forty-six Regional Health and Family Welfare Training Centres have been set up for training of PHC-level medical officers, Block Extension Educators and Health Assistants. At present all these institutions are fully engaged in providing reorientation training for the PHC personnel and retraining vertical-line workers as Multipurpose Workers.

3. There are 332 training schools for providing basic training to ANMs/Health Workers. Of these, 92 are run by voluntary organisations such as the Red Cross. There are 22 LHV Training Centres in the country. Since the regular training of LHVs has been discontinued, these institutions are being utilised for providing a 6-month primary training to qualified ANMs/LHVs to enable them to become Health Supervisors/Health Assistants also (see Chapter 6).

4. The Indian Institute of Management at Ahmedabad and the Administrative Staff College, Hyderabad, provide training to field level staff and also develop management information systems with special reference to the World Bank / Swedish International Development Authority assisted India Population Project-I (IPP-I) covering six districts of Uttar Pradesh and five districts of Karnataka. These two institutions have been provided financial support to set up co-facilities in health and population control. They have also drawn upon their regular faculty for lateral coordination and assistance.

5. Population Centres for Research and Evaluation have been set up at Lucknow and Bangalore to monitor and evaluate the programmes under the IPP-I. These act in close collaboration with the two management institutions mentioned under number 4 above, and with state government bodies.

6. The International Institute of Population Studies at Bombay provides facilities for higher level studies.

7. The National Institute of Health and Family Welfare, along with its sister body, the Central Health Education Bureau, are the apex institutions for teaching, research and evaluation of health and family welfare services in the country.

Details of the training of various categories of personnel needed for the family welfare programme have been discussed in Chapter 6.

## MONITORING AND EVALUATION

Over a period of years, a well-knit organisation has been set up for monitoring the family welfare programme. It has been claimed to be one of the most closely monitored programme in the country (Government of India 1978b). Data on its performance and various other facets flow up from the grassroots through the various levels, finally reaching the Central Evaluation and Intelligence Division of the Department of Family Welfare, where these are regularly and periodically compiled, analysed and used in strengthening the managerial process. This provides continuous and concurrent evaluation of programme.

In addition to compilation of data collected from field levels and their analysis and consolidation, sample verification of reported performance is also carried out by four Regional Evaluation Units of the Department of Family Welfare (Government of India 1978b).

Sample verification is also carried out through periodic evaluation visits of state-level and union-level officials from Demographic and Evaluation Cells.

To encourage academic excellence in the field of population studies and for independent external evaluation, the Department of Family Welfare has set up a network of Demography and Communication Action Research Centres (now re-designated Population Research Centres). There are 15 such Centres. In 1978 these Centres were requested to undertake extensive external evaluation of the programme on a continuous basis every year in two districts each (Government of India 1978b). External evaluation is also carried out by the National Institute of Health & Family Welfare, the Programme Evaluation Organisation of the Planning Commission, the Operations Research Group (Baroda), and the Family Planning Foundation. The Sample Registration Scheme of the Registrar General of India and the sample surveys conducted by the National Sample Survey Organisation also provide independent estimates of birth rates and fertility patterns.

The data gathered by the Evaluation and Intelligence Division are

systematically documented in the form of publications which are widely distributed to concerned organisations and scholars through an extensive mass mailing system (Government of India 1978b).

India was the first country to request the United Nations to depute an evaluation mission to study its family planning programme. The UN Mission submitted its report in 1966 (United Nations Advisory Mission 1966). Its recommendations were substantially accepted and implemented. In response to another request from the Government of India for another evaluation of the programme, the United Nations sent a second evaluation mission early in 1969. It submitted its report in early 1970 (United Nations Advisory Mission 1969).

The Programme Evaluation Organisation (PEO) of the Planning Commission had conducted extensive evaluation of the programme in 1965 (Government of India 1965) and in 1970 on the impact of various inputs on the programme (Programme Evaluation Organisation 1970). Action had also been taken on the recommendation of the PEO.

The most recent assessment of the programme was that by a Working Group on Population Policy set up by the Planning Commission in 1979, referred to earlier in this chapter (Government of India 1980a).

## RESEARCH

Research in family planning has been mainly in three areas: biomedicine, demography and communication action research. The Sixth Plan allocation for research and evaluation in family planning is Rs. 115 million (Government of India 1981b : 385).

### Biomedical Research

Various medical institutions, universities and research centres are carrying out research in reproductive biology and fertility control.

The Indian Council of Medical Research, the apex body in this field, is given grants by the Department of Family Welfare for conducting research. The emphasis here has been on (a) development of simple and mass acceptable methods of contraception based on the physiological mechanism of reproduction; and (b) establishment of a nation-wide organisational base for reproduction and contraception research. In 1981, it started a series of clinical trials of newly developed contraceptives.

The Central Drug Research Institute, Lucknow, has undertaken several studies for development of chemical, physiological and other methods for regulation of fertility.

## Population Research Centres

As mentioned earlier, grants are provided by the Department of Family Welfare to 15 Population Research Centres located at Baroda, Bangalore, Delhi, Dharwar, Gandhigram (Tamil Nadu), Lucknow, Patna, Pune, Trivandrum, Bhubaneswar, Waltair, Gauhati, Chandigarh, Bhopal and Udaipur for conducting research in the field of demography and communication (Government of India 1982d : 72). During 1982, they undertook fertility and family planning surveys, studies of fertility differentials, characteristics of family planning acceptors; differentials in family planning practices, the impact of modernisation on fertility, the Multipurpose Workers' Scheme, and interrelationship of public health, population and development.

The World Bank and United Nation's Fund for Population Activities (UNFPA) have funded study on Causes and Determinants of Fertility Decline in Kerala and Karnataka which is being conducted by the Bureau of Economics and Statistics, Trivandrum, and the Institute for Social and Economic Change, Bangalore (Government of India 1982d : 72). The UNFPA is also assisting a Baseline Survey in Bihar and Rajasthan.

## India Population Projects and Other Area Development Projects

One of the largest schemes for research in family planning was the India Population Project (IPP). The first (IPP-I) of this experimental cum demonstration projects was launched in 1973 (India Population Project 1973; India Population Project 1978; Government of India 1980b). The object was to test the various programme inputs and evolve ways and means for attaining better performance from them. IPP-I covered six districts in Uttar Pradesh and five in Karnataka. The project had four wings as detailed below:

1. *Population Centre*, which interacted with administrators in determining programmes and taking policy decisions; provided information regarding changes in the supply or demand structures, and ran a management-information and evaluation system (MIES).

2. *Project Implementation Unit*, whose main function was speedy completion of the health infrastructure, training facilities and equipment to implement the services; providing additional inputs to supplement the family planning efforts of the government; and implementation of recommendations regarding changes in the project area.

3. *Construction Unit*, which saw to the construction of all physical facilities.

4. *Coordination Unit*, which coordinated the execution of the project in the state, maintained financial records and books of account related to

the project, reviewed and checked project expenditures, etc., and prepared disbursement claims, annual accounts and monthly balances.

The studies carried out by IPP-I can be broadly grouped into the four categories indicated below.

1. Operational and managerial aspects of the family welfare units like PHCs, Sub-centres, Districts State Family Welfare Bureaus and Urban Family Welfare Centres, focussing on improving and strengthening their services and training of staff working at different levels to improve their efficiency.

2. Effectiveness of various contraceptive methods, distribution and delivery systems of family welfare services.

3. Effective communication with and education of the client population in matters related to the family planning programme.

4. Involvement of different organisations like voluntary agencies, local bodies, indigenous medical practitioners, school teachers, dais, etc.

The ultimate objective of the projects was to bring down the birth rate through creation of facilities for integrated delivery of health, nutrition and maternal and child health and family planning services as near to homes as possible, specially in the rural areas. Demand for family planning services was sought to be created through expansion of information, education and communication activities and through closer involvement of the community and opinion leaders.

Much larger populations have since been covered with similar projects—now called Area Development Projects—to give a fillip to the family welfare activities in districts where the programme is weak. Sixty-three districts in 14 states have been taken up under five Area Projects with financial assistance from World Bank, United Nations Fund for Population Activities (UNFPA), Danish International Development Agency (DANIDA), United States Agency for International Development (USAID), and Overseas Development Agency of the United Kingdom (ODA) (Government of India 1984b: 20-22). The World Bank has taken up six districts in Uttar Pradesh and three in Andhra Pradesh (IPP-II); under IPP-III (1984-89), the World Bank has included six districts of Karnataka and four districts of Kerala. Total cost of IPP-II and IPP-III comes to about Rs. 2024 million, with the World Bank contributing 1508 million. The DANIDA Project covers eight districts of Madhya Pradesh and two districts of Tamil Nadu, with Danish assistance amounting to Rs. 280 million out of the total project cost of Rs. 317 million. The ODA Project covers five districts in Orissa, where the ODA contributes Rs. 133 million out of the total project cost of Rs. 296 million. The UNFPA Project covers four districts in Rajasthan and eleven districts in Bihar, with the UNFPA meeting 80 per cent of the total project cost of Rs. 700 million. The USAID assists projects in two districts in Gujarat-

and Maharashtra and three districts each in Punjab, Haryana and Himachal Pradesh, contributing a sum of Rs. 480 million out of the total project cost of Rs. 512 million. Total allocation for covering all the 63 districts under Area Projects amounts to over Rs. 2500 million (Government of India 1984b : 20-22).

## INVOLVEMENT OF PROFESSIONAL ORGANISATIONS AND VOLUNTARY AGENCIES

Special efforts have been made to encourage members of the Indian Medical Association and other professional bodies to participate in the programme either in their own clinics or in any of the clinics run by the Family Welfare Programme. Practitioners of the indigenous systems of medicine and homoeopathy have also been encouraged to participate and contribute to the programme (Government of India 1968a).

Voluntary associations were active in the birth control movement in India long before family planning became a government-sponsored programme. However, after the launching of the official programme, the position of the voluntary agencies became somewhat ambiguous. It is often asserted that the role of the voluntary associations is to 'convert the family planning programme from a routine government programme into a people's movement' (Family Planning Association of India 1977; Government of India 1980a). However, if by a voluntary agency is meant an institution which is built on the foundation of voluntary association of a group of people who are prepared to donate time, money and effort for the cause of family welfare in India, very few of the agencies which claim to be voluntary in character fulfil this criterion. How can they launch a 'people's movement'?

The Family Planning Association of India (FPAI) is one of the oldest voluntary associations in the field. However, active involvement of citizens in the work of this association in the form of donations and voluntary work, is not very impressive and the bulk, if not almost the entire cost of running the organisation is met from grants made by the International Planned Parenthood Federation (IPPF). The work of the association is mostly carried out by paid workers (Family Planning Association of India 1977).

Agencies run by Protestant missions form yet another important group of voluntary agencies. In 1975 there were as many as 269 community health and family planning projects of the Christians Medical Association of India (Christian Medical Association of India 1976). Once again the funds for running these are derived almost exclusively from donations from Christian organizations abroad and government grants.

One of the significant features of the involvement of these 'voluntary agencies' in the programme has been their demand for cent per cent grants from government. This immediately raises the basic question of their voluntary character. It also raises the question of accountability in the expenditure of public funds which leads to persistent complaints by voluntary agencies against 'bureaucratic bottlenecks' in the implementation of the family planning programme in India.

If voluntary effort amounts merely to handing over public funds to certain agencies to run a programme more efficiently than government agencies could, the effort ceases to be voluntary. All that has happened is that non-governmental agencies, which claim to have capabilities of making more effective use of the available funds, take over the running of the programme from the government. This certainly does not amount to building up a people's movement. The Planning Commission's Working Group on Population Policy had taken note of this anomaly and has recommended that 'the voluntary organisations should become voluntary in the sense that they do not depend excessively upon governmental financial support' (Government of India 1980a : 62).

Clubs, such as Rotary Clubs, Lions Clubs and Giants International, which draw their membership from the affluent sections of the community, cannot be considered voluntary agencies which are capable of developing a people's movement. Their work in the field of family planning, as in any other community activity, can at most be considered charitable activity of a minor nature.

Because of these constraints, in spite of receiving cent per cent grants from the government, voluntary agencies in India have confined their activities mostly to urban metropolitan areas which contain a very small fraction of the total population of the country. Even within this limited population, their contribution is very small.

Voluntary agencies can, however, claim credit for introducing the laparoscopy method of tubectomy in the country in the late seventies. Indeed, such innovative activities are very legitimate areas of activity for such agencies.

The Family Planning Foundation of India can be singled out as a voluntary agency in a different sense. Even though, soon after its inception, it received very substantial grants from the Ford Foundation, it has also succeeded in obtaining enough donations from leading industrial houses to stand as a self-sufficient, independent organisation (Family Planning Foundation 1979). In 1981, the Chairman of the Family Planning Foundation, J.R.D. Tata brought together other leading industrialists, along with politicians, educationists, scientists, social workers, artists and eminent citizens to make what has come to be known as the 'Declaration for a Better Future'.

## INVOLVEMENT OF PARLIAMENTARIANS

The formation of the Indian Association of Parliamentarians for Problems of Population and Development (Government of India 1981g) in 1977 was a significant event. It is a non-party organisation which expresses the universal national concern for the problem. The United Nations Fund for Population Activities (UNFPA) has played a significant role in the formation, growth and development of this Association. In its first National Conference in May 1981 (Government of India 1981g), it called for consolidating voluntary cooperation of people in family planning in the overall context of development programmes. Its unanimously adopted a declaration which recognised family planning as a basic human right which is vital to development and as an instrument for social change. It pledged total political commitment to the programme, and resolved to keep it out of the realm of political controversy. This Association adopted a declaration and resolutions and recommendations which sum up the current consensus on the family planning movement among elected representatives of the people belonging to different political parties and their commitment to it.

## PERFORMANCE

It is difficult, when describing the performance of the family welfare programme, altogether to avoid an element of bias in its assessment. Nevertheless, to enable consideration of the latter aspects in the total context of health and family welfare services in the country, a full assessment of the programme will be taken up separately below.

A second problem is the development of criteria for measuring performance of different aspects of the programme. The complex nature of the programme, and its deep political and social overtones, has led to a variety of criteria being applied and, often, from the same data, diametrically opposite conclusions have been arrived at. An attempt is made below to make as objective a presentation as possible of the performance so far.

Creation of mass awareness of the small family norm throughout the country is a most valuable contribution of the family planning programme. Nationwide discussions on the population problem and the wide publicity given to family planning activities have created a wide sense of awareness of the problem among informed sections of the population and there is no organised opposition to the movement as such. The setting up of a dense network of services, from the village level upwards, is also a major achievement.

A traditional measure of the performance of the programme is the

number of sterilisations performed, IUDs inserted, and conventional contraceptives distributed. Though achievements, in these terms, were considerable, there was also a retreat from the philosophy of family planning as a voluntary programme. The backlash of the sterilisation drive of 1975-76 led to a fall of as much as 90.8 per cent in performance in the first six months of the following year (Desai 1983). However, in recent years there has been notable progress.

Family planning acceptors by different methods since 1956 are presented in Table 9.6. The most significant feature of this table is the wide changes, both in the absolute number of acceptors as well as in the proportion of these accepting different methods. Almost 40 per cent of the acceptors were IUD users in 1965-66 and 1966-67. Their percentage dwindled to as low as 4.6 and 7.2 in 1966-67 and 1977-78, respectively. Later, there has been a small increase in the proportion of IUD users among the acceptors. The number of those who accepted sterilisation varied from 8.26 million in 1976-77 and 3.12 million in 1972-73 to as few as 0.67, 0.88, 0.94, and 0.95, million in 1965-66, 1966-67, 1973-74 and 1977-78, respectively. This is a very significant feature of the performance of the programme.

Table 9.7 gives the state-wise targets and achievements of sterilisations during 1982-83 and 1981-82. It once again presents the familiar picture of states like Uttar Pradesh, Bihar and Rajasthan lagging behind, while Gujarat and Maharashtra have more than fulfilled their targets. However, it will be shown later that, despite this, the impact of family planning in Gujarat and Maharashtra has not been as great as one would have expected. Certain basic assumptions in the allocation of targets and measurement of their attainment can be questioned.

The urban-rural break-up of sterilisations performed and IUDs inserted (Table 9.8) show that in proportion to urban and rural populations, family planning achievements have been consistently higher in urban than in rural areas. Only in the Emergency year (1975) did sterilisation performance (vasectomies) move close to the actual population ratio.

Table 9.9 shows once again another consistent feature of family planning programme in India, namely the age of the wife among a very large number of acceptors was above 30 years and 75 per cent of the couples had three or more living children (Government of India 1984c: 176).

Table 9.10 gives a sex-wise distribution of sterilisation operations performed since 1956. Here again there are wide fluctuations. A very significant feature is that, since 1977-78, there has been a persistently high proportion of women among the acceptors, yet another consequence of the backlash of the mass vasectomy drive of 1975-76.

An effort has also been made to measure the performance of the programme in terms of the number and proportion of eligible

**TABLE 9.6: Family Planning Acceptors by Methods—All India  
(Since 1956)**

(in '000)

Year	Sterilisation	IUD Insertions	Equivalent C.C. and OP Users + @	Total Acceptors	Equivalent Sterilisations
1956	7	—	—	7	7
1957	14	—	—	14	14
1958	25	—	—	25	25
1959	42	—	—	42	42
1960	64	—	—	64	64
1961	105	—	—	105	105
1962	158	—	—	158	158
1963	170 (36.4)	—	298 (63.6)	468 (100.0)	187
1964	270 (38.0)	—	439 (62.0)	709 (100.0)	294
January 1965 to					
March 1966	671 (32.5)	813 (39.3)	582 (28.2)	2,066 (100.0)	974
1966-67	887 (39.2)	910 (40.2)	465 (20.6)	2,262 (100.0)	1,216
1967-68	1,840 (61.7)	669 (22.4)	475 (15.9)	2,984 (100.0)	2,089
1968-69	1,665 (53.6)	479 (15.4)	961 (31.0)	3,105 (100.0)	1,878
1969-70	1,422 (41.9)	459 (13.5)	1,509 (44.6)	3,390 (100.0)	1,659
1970-71	1,330 (35.3)	476 (12.6)	1,963 (52.1)	3,769 (100.0)	1,598
1971-72	2,187 (43.5)	488 (9.7)	2,354 (46.8)	5,029 (100.0)	2,481
1972-73	3,122 (53.2)	355 (6.0)	2,398 (40.8)	5,875 (100.0)	3,373
1973-74	942 (21.8)	372 (8.6)	3,010 (69.6)	4,324 (100.0)	1,233
1974-75	1,354 (31.4)	433 (10.1)	2,521 (58.5)	4,308 (100.0)	1,638
1975-76	2,669 (39.2)	607 (8.9)	3,528 (51.9)	6,804 (100.0)	3,068
1976-77	8,261 (65.9)	581 (4.6)	3,692 (29.5)	12,534 (100.0)	8,663
1977-78	949 (21.0)	326 (7.2)	3,253 (71.8)	4,528 (100.0)	1,242
1978-79	1,484 (27.0)	552 (10.0)	3,469 (63.0)	5,505 (100.0)	1,865
1979-80	1,778 (32.4)	635 (11.6)	3,069 (56.0)	5,482 (100.0)	2,165
1980-81	2,053 (31.6)	628 (9.7)	3,809 (58.7)	6,490 (100.0)	2,479
1981-82	2,792 (34.4)	751 (9.3)	4,559 (56.3)	8,102 (100.0)	330,3
1982-83	3,983 (36.1)	1,097 (10.0)	5,948 (53.9)	11,028 (100.0)	4,689
1983-84*	4,532 (30.5)	2,131 (04.3)	8,213 (55.2)	14,876 (100.0)	5,729

@ Net of Nirodh Distributed free to Vasectomised cases from 1970-71 onwards.

+ Includes Equivalent Oral Pill Users also since 1975-76.

\* Provisional.

**Note 1.** Equivalent sterilisations have been calculated by revised formula by adding the number of sterilisations, 1/3 the number of IUD Insertions, 1/18 the number of Equivalent C.C. Users and 1/9 the number of Equivalent Oral Pill users.

**2.** Figures in brackets indicate percentage to total acceptors for each year.

**Source:** GOI, Dept. of FW, MOHFW, *Year Book 1983-84*.

**TABLE 9.7: State-wise Targets and Achievements of Sterilisation  
During 1982-83 and 1981-82**

Sl. No.	State/ Union territory/ Agency	Target		Achievement		Achievement %	
		1982-83	1981-82	1982-83*	1981-82	1982-83*	1981-82
1.	Andhra Pradesh	391,000	244,100	350,055	290,434	89.5	119.0
2.	Assam	91,000	60,400	55,763	34,116	61.3	56.5
3.	Bihar	418,000	275,900	352,117	159,304	84.2	57.7
4.	Gujarat	260,000	162,300	241,519	237,405	92.9	146.3
5.	Haryana	84,000	53,700	86,519	44,445	103.0	82.8
6.	Himachal Pradesh	26,000	15,800	33,467	22,599	128.7	143.0
7.	Jammu & Kashmir	35,000	22,700	19,239	11,257	55.0	49.6
8.	Karnataka	305,000	190,400	232,834	188,820	76.3	99.2
9.	Kerala	160,000	100,000	144,059	123,858	90.0	123.9
10.	Madhya Pradesh	382,000	246,400	325,735	213,370	85.3	86.6
11.	Maharashtra	473,000	295,500	622,424	494,604	131.6	167.4
12.	Orissa	174,000	115,600	146,693	110,130	84.3	95.3
13.	Punjab	102,000	65,700	135,103	75,350	132.5	114.7
14.	Rajasthan	215,000	134,000	167,055	142,058	77.7	106.0
15.	Tamil Nadu	292,000	182,200	270,719	188,828	92.7	103.6
16.	Uttar Pradesh	621,000	412,400	430,822	158,619	69.4	38.6
17.	West Bengal	357,000	230,000	269,547	217,329	75.5	94.5
All India		4,521,750	2,895,900	3,980,224	2,792,374	88.0	96.4

\*Figures provisional

—Nil

Source: GOI, Dept. of FW, Year Book 1982-83.

couples currently and effectively protected against the risk of pregnancy. Eligible couples are defined as those where the wife is in the reproductive age group i.e. 15 to 45 years. For this purpose, the Union Department of Family Welfare had to make certain assumptions which are not always academically convincing (Seal 1974). Nevertheless, the proportion of the couples currently and effectively protected by different methods offers another way of measuring the performance of the family welfare programme. Table 9.11 gives state-wise distribution of the number of couples currently and effectively protected by different methods. Considering only the states which have large populations, the variation in terms of percentage of couple protection is remarkable. At one end there are the states of Maharashtra (40.0), Gujarat (36.9), Punjab (34.5) and Kerala (33.5), while at the other extreme there are the states of

**TABLE 9.8: Rural/Urban Break-up of Sterilisation Done in India Since 1966-67**

Year	Number of Sterilisations		No. IUD Insertions	
	Total	%of rural to total	Total	%of rural to total
1966-67	887,368	57.7	909,726	59.6
1967-68	1,839,811	61.7	668,979	58.9
1968-69	1,664,817	64.2	478,731	59.8
1969-70	1,422,118	55.9	458,726	58.2
1970-71	1,329,914	57.2	475,848	58.8
1971-72	2,187,336	65.7	488,368	63.9
1972-73	3,121,856	71.0	354,624	61.6
1973-74	942,402	58.1	371,594	67.9
1974-75	1,353,859	61.7	432,630	68.5
1975-76	2,668,754	67.0	606,638	71.8
1976-77	8,261,173	75.9	580,700	71.2
1977-78	948,769	51.8	325,680	59.4
1978-79	1,483,907	64.1	551,551	66.5
1979-80	1,777,924	68.5	634,509	64.9
1980-81	2,052,770	67.2	627,650	58.5
1981-82	2,792,374	68.0	750,539	61.4
1982-83*	3,980,224	71.7	1,092,478	66.0

\*Figures Provisional

Sources: GOI, Dept. of FW, MOHFW, *Year Book*, 1982-83.

Uttar Pradesh (13.1), Bihar (13.7) and Rajasthan (15.7). Table 9.12 gives year-wise distribution of couples currently and effectively protected by various methods of family planning from 1970-71 to 1980-81.

The disparities among the states can easily be correlated with other gross disparities which have so often been referred to in previous pages. These are summed up for six states in Table 9.13. The message comes out very clearly: the worse the general living conditions of the people, the more difficult it is to persuade them to accept and practise family planning. An appreciation of the truth of this seeming paradox is essential in considering the components and priorities of a programme of total welfare.

TABLE 9.9: Percentage Distribution of Acceptors of Sterilisation by Age of Wife in Various States/UTs During 1981-82

Sl. State/Union No. Territory/ Agency	Total number of acceptors during 1981-82	Percentage of acceptors by age-group of wife								Mean age	
		<15	15-19	20-24	25-29	30-34	35-39	40-44	45 above	1981-82	1980-81
1. Andhra Pradesh	258,246	—	1.5	21.8	35.3	25.3	13.3	2.8	—	29.3	29.3
2. Assam	34,116	—	—	2.3	19.3	44.9	29.5	4.0	0.0	33.2	32.0
3. Bihar	159,304	—	1.9	11.8	20.5	33.4	19.4	13.0	—	32.3	32.3
4. Gujarat	237,405	—	—	9.2	35.7	35.0	16.4	3.7	—	31.0	30.9
5. Haryana	44,445	—	0.0	5.0	27.4	35.0	26.5	6.1	—	32.6	32.2
6. Karnataka	188,820	0.0	0.9	17.5	43.3	27.0	10.1	1.2	—	29.1	29.6
7. Kerala	123,858	—	0.3	22.4	37.7	26.9	10.4	2.3	—	29.1	28.2
8. Madhya Pradesh	213,370	—	0.0	10.3	34.9	34.9	16.5	3.3	0.1	30.9	31.2
9. Maharashtra	494,604	—	0.2	8.1	32.4	34.3	20.2	4.8	0.0	31.5	31.1
10. Orissa	110,130	—	0.1	7.4	35.1	36.7	17.9	2.8	0.0	31.2	31.5
11. Punjab	75,350	—	—	5.8	26.5	37.6	26.6	3.5	—	32.3	32.4
12. Rajasthan	142,058	—	0.0	6.2	27.3	37.0	23.2	6.3	0.0	32.3	32.1
13. Uttar Pradesh	158,619	—	0.6	7.8	24.5	34.2	26.6	6.3	0.0	32.4	32.6
14. West Bengal	217,329	—	0.9	15.1	34.1	27.2	16.7	5.4	0.6	30.6	30.6
15. Delhi	23,969	—	0.0	6.9	30.5	33.3	22.1	6.6	0.6	32.1	31.5
All India (1981-82)	2,792,374*	0.0	0.6	12.0	33.0	32.0	17.9	4.4	0.1	30.9	30.7

\*Represents total performance in the country

Source: GOI, Dept. of FW, MOHFW Year Book, 1982-83

**TABLE 9.10: Sex-wise Break-up of Sterilisation Operations Performed  
(Since 1956)**

Year	Total	Percentage of tubectomies to total
1956	7,153	66.5
1957	13,736	69.8
1958	25,148	63.5
1959	42,302	58.3
1960	64,338	41.6
1961	104,585	38.9
1962	157,947	28.9
1963	170,246	32.7
1964	269,565	25.4
1965 January to March 1966	670,823	14.0
1966-67	887,368	11.5
1967-68	1,839,811	10.4
1968-69	1,664,817	16.9
1969-70	1,422,118	25.8
1970-71	1,329,914	33.9
1971-72	2,187,336	25.9
1972-73	3,121,856	16.3
1973-74	942,402	57.2
1974-75	1,353,859	54.7
1975-76	2,668,754	46.1
1976-77	8,261,173	25.0
1977-78	948,769	80.2
1978-79	1,483,907	73.7
1979-80	1,777,924	73.4
1980-81	2,052,770	78.6
1981-82	2,792,374	79.5
1982-83*	3,980,224	85.3
Cumulative since inception	40,241,219	44.3

\*Provisional

Source: GOI, Dept. of MOHFW, *Year Book*, 1982-83.

TABLE 9.11; State-wise Number of Couples Currently and Effectively Protected by Various Methods as on March, 1983

Sl.	State/Union Territory	Estimated No. of eligible couples March, 1983 (in'000)	Sterilisations Per cent protected	IUD Per cent effectively protected	Other methods Per cent effectively protected	All methods Per cent effectively protected
1.	Andhra Pradesh	10,017	27.6	0.4	0.4	28.4
2.	Assam	3,087	17.4	0.8	0.4	18.6@
3.	Bihar	13,607	13.0	0.5	0.2	13.7@
4.	Gujarat	5,844	33.1	1.7	2.1	36.9
5.	Haryana	2,177	24.7	3.1	3.6	31.5
6.	Karnataka	6,361	24.0	1.8	1.0	26.7
7.	Kerala	3,686	31.9	1.2	0.4	33.5
8.	Madhya Pradesh	9,684	22.2	0.7	0.7	23.6@
9.	Maharashtra	11,181	37.1	1.0	1.9	40.0
10.	Orissa	4,777	25.5	1.0	1.0	27.5
11.	Punjab	2,497	24.0	7.5	3.0	34.5
12.	Rajasthan	6,451	14.6	0.6	0.5	15.7@
13.	Tamil Nadu	8,439	27.3	0.8	0.3	28.4
14.	Uttar Pradesh	20,459	9.5	2.3	1.3	13.1@
15.	West Bengal	8,623	24.1	0.7	0.9	25.7@
16.	Delhi	1,047	23.8	7.4	6.2	37.4
Total		121,375	22.0	1.4	2.5	*25.9

Notes: (i) Estimates of couples with wives in the age group 15-44 years have been worked out on the basis of proportion of currently married females of the total population as of 1971 census. Estimate of population as on 31st March, 1983 were extrapolated.

(ii)\* Includes 11,523 oral pill users reported by Family Planning Association of India and C.M.A.I Projects.

(iii) State-wise figures may not add upto All India figures due to rounding off errors.

(iv)@ Below All India average.

Source: GOI, Dept. FW, MOHFW, Year Book, 1982-83.

**TABLE 9.12: Percentage of Couples Currently and Effectively Protected by Various Methods of Family Planning From 1970-71 to 1980-81**

Year	Per cent protected by Sterilisation	Per cent effectively protected by IUD	Per cent effectively protected by Conventional contraceptives	Per cent effectively protected by—all methods
1970-71	8.1	1.4	1.1	10.6
1971-72	9.9	1.3	1.2	12.4
1972-73	12.3	1.1	1.2	14.7
1973-74	12.4	1.0	1.5	14.9
1974-75	12.8	1.0	1.2	15.0
1975-76	14.4	1.1	1.7	17.1
1976-77	20.9	1.1	1.8	23.7
1977-78	20.2	0.9	1.5	22.6
1978-79	19.9	0.9	1.6	22.4
1979-80	19.9	1.0	1.4	22.3
1980-81	20.0	1.0	1.7	22.7
1981-82	20.6	1.1	2.0	23.7
1982-83	22.0	1.4	2.5	25.9
1983-84*	23.7	2.2	3.5	29.2

\*Provisional

*Notes:* I. The estimates of couples protected given in above table are based on  
 (a) latest age distribution of acceptors and  
 (b) latest estimates of joint survivance ratios of husbands and wives in different age groups.  
 Annual attrition rate for IUD acceptors taken as 37.6% and average annual attrition rate for vasectomy acceptors and tubectomy acceptors taken as follows:

Periods	I five years	II five years	III five years	IV five years	V five years
Vasectomy	4.11%	7.14%	13.04%	18.74%	33.50%
Tubectomy	2.72%	6.20%	13.52%	28.65%	53.89%

II. Couples effectively protected are arrived at by multiplying the couples currently protected by the level of use effectiveness of the method, which is taken as 100% for sterilisation and oral pills, 95% for IUD and 50% for Conventional Contraceptives.

III. Couples protected and corresponding percentage reflect the position as at the end of each year.

IV. Totals may not tally due rounding off errors.

*Source:* GOI, Min. H&FW, *Year Book*, 1983-84.

TABLE 9.13: Comparison of Different Variables in Six States

	U.P.	Bihar	Rajasthan	Maharashtra	Tamil Nadu	Kerala
1. Birth Rate (1983)	38.4	37.2	40.0	29.6	2.78	24.9
2. Death Rate (1983)	15.7	13.0	13.5	9.1	11.6	6.7
3. Infant Mortality Rate (1976)	178	N.A.	142	83	110	56
4. General Fertility Rate	217.0	N.A.	165.7	126.0	121.8	107.3
5. Gross Reproduction rate	3.2	N.A.	2.6	2.0	1.9	1.6
6. Percent Couple Protected (1981)	10.8	11.9	13.5	34.6	27.6	30.9
7. Decinnial Growth (1981)	+25.49	+23.90	+32.36	+24.36	17.23	+19.00
8. Total Population (1981)	110,858,019	69,823,154	34,102,912	62,693,898	48,297,456	25,403,217
9. Rural/Urban Distribution	R—82.0 U—18.0	87.54 12.46	79.07 20.93	64.97 35.03	67.02 32.98	81.22 18.78
10. No. Female per 1000 (1981)	886	947	921	939	978	1034
11. Literacy (1981) M F	38.87 14.42	37.78 13.58	35.78 11.32	58.89 35.08	57.10 34.12	74.03 64.48
12. Per capita Health Expenditure (Rs)	8.11	6.94	29.69	16.85	14.73	19.26
13. Bed/Population Ratio	2332	2987	1988	875	1175	567
14. No. Doctors admitted for one lakh population	0.96	0.76	1.35	2.34	1.17	2.31
15. Medical College/Population Ratio	1:123	1:77	1:68	1:48	1:53	1:63
16. Per Capita NDP* 1981-82	1313	995	1441	2496	1373	1447

\*Net Domestic Product

Source: Compiled from Tables in *Health Statistics of India, 1982* and *Family Planning Year Book 1981-82 and 1983-84*.

Table 9.12 gives year-wise performance of the programme in terms of number of acceptors and percentage of couples protected for the entire country for the years 1970-71 to 1980-81. Even if the figures and the calculations of the Department of Family Welfare are accepted as reliable and conceptually sound, the level of effective couple protection had come down from 23.9 per cent in 1977 to 22.3 per cent in 1980 (Table 9.12).

The Sixth Plan refers to the failure to meet the Fifth Plan objective of reducing the birth rate from (an assumed rate of) 35 per thousand population at the beginning of the Plan to 30 per thousand by 1978-79 (Government of India 1981b : 373). The failure to attain the birth rate targets in the past is attributed by the Sixth Plan document largely to 'the inability to carry forward the programme throughout the country with active involvement of the people'. It considers 'enthusiasm and community participation' as essential for the success of the programme and it admits that 'this has not been generated in adequate measure'. The programme is 'still viewed by the public as routine governmental activity' (Government of India 1981b : 373).

The failure of the programme to attain the targets as well as the wide swings in performance can be attributed to wide changes in the policy for implementation.

The family planning disaster of the Emergency finally led to adoption of the present policy which not only categorically and firmly rules out use of coercion in any form in the promotion of a small family norm, but goes much further in visualising a family welfare programme as a component of a much larger package which embraces wide areas in the social and economic fields (Government of India 1982d : 6). Viewed from this broader perspective, the performance appears even more modest than is reflected by the cold figures relating to acceptance of contraceptive methods. As will be shown in Chapter 12, even if performance is measured only in terms of the maternal and child health programme, it will be seen that the work that still remains to be done to build up an effective family planning programme as a component of effective maternal and child health services is substantial.

Even when the vision is lowered considerably and the performance of the family planning programme is measured only in terms of demand and supply of contraceptive services, data now available indicate that there have been considerable family planning needs within the population which remains unmet because of inadequacies in supply of services (Banerji 1973d). Many other serious inadequacies in the supply have often been highlighted by a study involving a systems analysis of family planning, covering a large rural population (Mishra et al 1982).

Another significant aspect of measurement of performance is the rate of return in terms of utilisation of the existing and additional and extended

services arising out of the rapidly rising rate of investment in family planning. Even when assessed by the very limited criterion of the number of acceptors, it is clear that there has been a considerable decline in the utilisation of the different components which form the Family Planning Programme (Banerji 1980c).

Coming finally to measure of performance in terms of reduction in the birth rate, SRS estimates have been invoked to claim a reduction from 36.9 in 1971 to 33.0 in 1979 (Table 8.5). However, provisional estimates of the 1981 Census put the present birth rate as high as 37.1 which seriously calls into question claims based on SRS data (Table 8.4).

Census figures on decennial population growth rates also do not correlate well with reported family planning performance. How is it that Gujarat, which had been in the forefront of the programme and has achieved its family planning acceptance targets and which has a current 'couple protection' percentage of 33, should have shown a decennial population growth rate which is appreciably higher than even the national average? Incidentally, the infant mortality rate for Gujarat has, according to the SRS, gone up from 109 for 1974 to 154 for 1975, to come down again to 146 for 1976. Again, why has the decennial population growth for West Bengal come down from 26.87 of 1961-71 to 22.96 in 1971-80, while this state is way behind the much more urbanised Maharashtra in terms of couple protection and other family planning performance criteria?

## THE PROCESS OF IMPLEMENTATION

### Sources of Data

Apart from the issues concerning assessment of the programme in terms of indices for attainment of welfare or attainment in the form of indices such as number of sterilisations, IUD insertions and use of conventional contraceptives, couple protection and births averted, there is also a need to assess the actual *process* of performance of the programme. Unfortunately, there are substantial difficulties in acquiring the data needed for such an assessment, much greater than is the case of assessments in the two former cases.

A very intensive effort was made in 1971 to assemble whatever data that could be unearthed to make an assessment of the different components of the family planning programme (Banerji 1971a : 31-50). A more recent publication (Mishra et al 1982), which has attempted a systems analysis of family planning in rural India (which was carried out in 1971-72) also provides valuable insights into the actual process of implementation of the programme. Direct observation of 11 Primary

Health Centres and 19 villages located in different parts of the country in 1972-81 (Banerji 1973d) also gave valuable information concerning the process of implementation of the programme. The study of 19 villages also provided detailed data on the way the intensified family planning programme was carried out in 1976 in these villages and how this traumatic experience influenced the attitudes of the population in the subsequent years (Banerji 1977b). The following account is based on the data from these four sources.

## THE 1971 ASSESSMENT OF THE PROGRAMME

### Community Motivation

Community motivation for participation forms the very core of the programme. The programme planners have used the terms 'motivation' very extensively and a big hierarchy of staff has been employed to 'motivate' the community to accept family planning. However, the planners do not appear to have taken into account some crucial factors. The term 'motivation' has been used too casually, in too loose a manner, without adequate understanding of the complex processes involved.

Perhaps the greatest mistake in the formulation of the family planning programme has been a gross overestimation of the effectiveness of the 'motivators' and an equally gross underestimation of the resistance that was to be encountered in motivating the community as a whole, in getting a small family norm accepted as a social and cultural norm. 'Motivation' was thought to be some sort of magic wand which could be used by anybody to make everybody accept family planning (Mathew 1969).

An unemployed urban youth, who had somehow graduated, finds his way into the programme and gets designated as a Block Extension Educator. After some time he gets some sort of training in some sort of a training institute where he is told about what some of the Western textbooks say. He faithfully learns some of the well-established gimmicks and cliches of his trade. He also goes into the Field Demonstration Area where he sees some sort of work being done by a staff that is quite different, both in quality and in quantity, from that he will work with in his own area. He returns to his block as a trained Block Extension Educator. His responsibility is to organise extension work among a population of 80,000 covering some 160 villages. Among other things, he has to 'identify local leaders', 'train' them and work with them, organise 'group discussion' at the village level, and provide supportive supervision and guidance to peripheral level family planning workers, who are as inadequately educated, ill-trained, ill-motivated and

ill-supported as himself. This band of workers is expected by the programme planners to kindle a virtual social and cultural revolution in the block, so that the small family norm becomes a part of their way of life.

The programme planners displayed little imagination when they persuaded themselves that, backed by some sort of supervisory staff at the block, district, state and central levels, one poorly prepared auxiliary nurse midwife would bring about behavioural change among women in a population of 10,000, or that one family planning field worker would bring about changes among the males in a population of 20,000, and that this change would take place to such an extent that the birth rate would be brought down to 23 in 1979 (Banerji 1971a : 32-33).

### Utilisation of the Services

What is the extent of utilisation of services in the tens of thousands institutions doing family planning work in urban clinics, rural main centres and subcentres, and other institutions doing family planning work in rural and urban areas? What is the performance of the 'organised sector' and the voluntary agencies?

At the central level, data concerning performance of these sectors were grossly inadequate, if not totally lacking. It was, however, possible to get some general insight into the degree of utilisation of the services even from certain manifestly gross information that was available.

Even after making assumptions which give the maximum benefits to programme administrators, it was calculated that: (a) less than 21 sterilizations and 8 IUD insertions were done for every technical person employed in the programme in 1968-69; (b) in the same year, an *average* urban clinic performed just 32 sterilisation and 9 IUD insertions per month and a Mobile IUD Unit made an *average* 13 IUD insertions per month (Banerji 1971a : 35-37).

It was concluded from the analysis that not even one-fifth of the capacity of the existing institutions providing family planning services was being utilised. There is thus quite a substantial waste of technical manpower, equipment and funds—all at a time when such resources were in short supply.

### Assessment of Training Activities

More particularly when the programme requires a very large number of persons to perform entirely new roles, their training, to prepare them for such roles, becomes a key factor in programme implementation. Training is an exceedingly expensive exercise. It involves the nonrecurrent cost for setting up a training institute (which includes buildings, furniture,

equipment and transport), maintenance cost and salary of the training staff, cost of field activities, research and evaluation and cost of stipends to the trainees, their travel and their salary. If, therefore, these institutions do not succeed in preparing the trainees for the job they are required to perform, the expenditure on them is wasted.

Some of the major requirements for preparing personnel for new roles are:

1. A well formulated programme, which is applicable and acceptable under existing conditions, is a basic prerequisite for developing a sound strategy for training of personnel for implementing it. Such a strategy not only requires a clear definition of the role of each category of workers in the programme, but has also to ensure that these acquire skills to work as members of well-coordinated teams.

2. Development of the training curricula for each category of workers on the basis of such an analysis of the programme.

3. Preparation of the trainers, so that they can use the curricula to prepare the trainees for the job.

4. Motivation of the trainees to learn new skills, so that they can effectively perform their role.

5. Readiness on the part of the programme organisers to provide full support to the trained personnel to make use of the new skills that are acquired in the course of the training.

6. Continuous evaluation of the performance of the trained personnel after they return to their posts and use of the feed-back data to keep the training activities in tune with the changing programme requirements.

Data have been presented (Banerji 1971a: 38-39) to demonstrate that training activities continue to be deficient on all six counts. Most of the training activities have become almost an empty ritual.

In the first place, the training institutions have found it almost impossible to keep pace with the very rapid and not very orderly alterations in the programme from the 'clinic approach' to the 'extension approach', from IUCD popularisation to the 'target approach'. This wavering of the programme has destroyed the very purpose of the training programme—that of keeping it oriented to the specific jobs which the trainees are to perform.

Moreover, perhaps because of these inadequacies in programme, the programme organisers, particularly at the state level, have not given training the importance it deserves. Often, the least desirable and the least interested workers are pushed into training institutions. Quite a few of the trainers thus had no interest in the programme; nor did they attach much importance to the training they imparted to the trainees. The programme organisers also did not appear to be very enthusiastic about sending their workers for training.

## **Quality of Evaluation**

The very fact that even elementary evaluation data concerning the performance of different sectors of the programme are not available at the level of policy formulation provides an indication of the quality of internal evaluation. The Interim Report of the Second United Nations Mission (United Nations Advisory Mission 1969 : 13) has underlined the need for strengthening the evaluation machinery:

Too often, the assessments are scattered and ad hoc, generally lacking the requisite systematisation. There appears to be scope, therefore, for a review of the present evaluation machinery in order to evolve effective procedures. Evaluation needs to be performed by external as well as by internal institutions. The former should undertake intermittent studies of the programme as a whole or specific aspects of it. The latter should be independent bodies functioning on continued basis. In addition, the programme itself should include an effective unit for concurrent programme evaluation to permit rapid corrective measures.

Reference has earlier been made to the Evaluation Report of the First United Nations Mission of 1966 (United Nations Advisory Mission 1966) and to the two studies of the Programme Evaluation Organisation of the Planning Commission (Programme Evaluation Organisation 1970), (Government of India 1965). If, however, evaluation means measurement of achievement of predetermined goals, none of these studies can be categorised as evaluation of the programme since none of the reports gives any indication that the recommendations have been based on scientifically collected objective data. It is not possible even to say that these recommendations were based on a well-considered, though manifestly impressionistic, analysis of the programme. One has to single out the gravest of all errors in scientific assessment—the element of personal bias—to account for the failure of these obviously high-powered bodies to take note of some of the glaring weaknesses in the programme—for example, weaknesses in motivation, poor utilisation of the services provided and the state of affairs in the training field.

The First United Nations Advisory Mission, for instance, had some most distinguished members. The fact that they ritualistically echoed the oft-repeated good things about such 'sacred cows' of the programme as voluntary agencies, extension education, training, and role of social workers, makes it doubtful whether they were capable of exercising the scientific rigour necessary for making even good impressionistic assessment of the programme.

As will be pointed out in Chapter 12, the First UN Mission persuaded itself that the family planning programme could make headway without expanding what it itself calls 'the much needed and neglected maternal and child health services' (United Nations Advisory Mission 1966 : 8-9). The mission had also not hesitated to join others in hailing the IUCD, saying (p. 7):

A major breakthrough in the family planning programme is now in sight with the recent acceptance of the Government of India of the intrauterine device, the loop, as a contraceptive method to be offered after various successful trials in India and some other countries.

Subsequent events have not substantiated these contentions of the Mission. On the contrary, they have underlined the fragility of the grounds on which such sweeping recommendations were made.

The Programme Evaluation Organisation had frankly accepted the inadequacies of their approach to 'evaluation' of the programme in 1965 (Government of India 1965 : 94). It stated clearly:

In its report, the panel of consultants has not attempted full-fledged evaluation of the operation or impact of the programme. It is more in the nature of a study, undertaken at a critical transition period, of current and emerging problems in the implementation of the 'reorganised' family planning programme. Considerable emphasis has been placed on assessing the priority given to and the understanding of the programme at higher levels in the states.

This, however, did not deter them from recommending far-reaching changes in the organisation. Events subsequent to implementation of these recommendations revealed that they did not yield the desired results. It is noteworthy that even the limited information that was collected by different evaluation teams was not made use of in the formulation of the recommendations (Banerji 1971a : 72).

### **Quality of Research**

The complex issues that need consideration in formulating a family planning programme opened up new fields for research, posing new challenges to research workers. Because of the crucial importance of the programme and because of the considerable resources that were made available for research, there ought to have been a virtual renaissance in the field of research on policy formulation, programme planning, and programme implementation and evaluation. Newer research tools such as

systems analysis, operational research, work study, and programme evaluation review technique (PERT), could have been used to great advantage. However, only one type of research, which gained importance because it happened to be in tune with the research background of some of the key foreign consultants, held the spotlight. This went under the queer name, 'communication-action-research' (Krishnamurthy 1968). Whatever might be its meaning and whatever might be its advantages, this approach did not make any significant contribution when it was used in India in the field of environmental sanitation (Government of India 1956). Even a full report of that study has not been issued. The experience was no better in the field of family planning (Krishnamurthy 1968; Rao 1974; Banerji 1969). Most of these studies have been described as artificial studies, studies which often lacked a sound conceptual base, often involving small populations, which were not always representative, on which a disproportionately large investment of inputs had been made, and for which, very often, the techniques used did not meet minimum research requirements (Krishnamurthy 1968). Because of these limitations, very often the findings from such studies could not be applied for increasing the operational effectiveness of the programme—they were not reproducible in real life situations. Stycos (1966) has eminently summed up social science research work in family planning by describing it as 'spotty, uncoordinated and noncumulative' (pp. 499-500). This description could also be aptly applied to other fields of research in family planning, including those in demography and biomedical research.

The Second United Nations Advisory Mission of 1969, in its Interim Report, also underlined the need for improving the quality of research (United Nations Advisory Mission 1969 : 12) :

As regard research carried out within the family planning administration or more directly linked with it, the Mission found scope for improvement in the selection of research topics so as to gear the work to the need for guidelines to policy and policy implementation. Similarly, the machinery for channelling research findings into the relevant organs of the programme administration needs to be perfected. Finally, the manner of presentation appears not always to reflect adequate regard for the reader's interest and ability to utilise scientific data.

The failure of the research workers to find answers to crucial operational problems left the field open to the lay administrators to find answers by using the age-old administrative methods. These methods, such as forming bureaucratic committees to 'look into these

questions and make recommendations', have, particularly in the context of the complexities of the problems involved, proved to be very inadequate. The programme bears a number of scars of inflictions made on it by recommendations of a variety of such committees.

It may be pointed out that when a programme is based on sound and well integrated operational research data, involving work of a multidisciplinary team, as for example, was done in the case of formulation of India's National Tuberculosis Programme (Chapter 7), it leaves little scope for a committee of generalist administrators to sit together in three or four sessions and recommend far-reaching changes in a technical programme.

### **Organisation and Management**

The Administrative Reforms Commission (Government of India 1969a) and some other eminent authorities in public administration (for example, Indian Institute of Public Administration 1968, Government of India 1966, Government of India 1968) have pleaded for a reorientation of administrative practices in India to enable the administration to meet the new patterns of demands created by social, political, economic and technological changes of modern times. They have all underlined the extremely urgent need for a scientific approach to administrative problems. They have strongly urged a generous injection of specialists at various levels of the administration, including the highest, so that it is in a position to respond to the challenges that are being posed by the emerging problems. However, the Indian administration, despite the pressure put on it during the last three decades, has not been able to discard its colonial traditions. It has been claimed that the generalists alone possess the superior managerial and political skills required for taking policy decisions (Khosla 1968).

Following these traditions, as has been pointed out in Chapter 4, the Ministry of Health, has been headed by a generalist, and the top technical man, the Director General of Health Services, is relegated to the position of heading an attached office of the ministry.

Because of the overriding priority given to family planning programme, it was expected that at least in this case the top post would not be allowed to remain the exclusive preserve of generalists. Reorganisation did take place, following the recommendations of the Programme Evaluation Organisation in 1965. But this actually resulted in an even further tightening of the grip of the generalists on the administrative machinery.

As has been mentioned in Chapter 4, later on the situation

became worse when even the specialist post of Commissioner was taken over by generalist administrators.

### **A SYSTEMS ANALYSIS OF THE PROGRAMME**

A very extensive analysis of the family planning programme in five districts of rural Uttar Pradesh by Mishra and his colleagues (Mishra et al 1982) is of considerable significance for assessing the process of implementation of India's family planning programme. Earlier in this volume, there have been frequent references to very disturbing aspects of the data concerning the social, economic, demographic, health and family planning situation in Uttar Pradesh (see Table 9.13). This state accounts for one-sixth of India's population, which gives Mishra's study considerable significance. Further, to study the family planning programme as a system, an effort was made to find out 'what is actually happening as policy intentions are implemented' (Mishra et al 1982 : 382). The importance of the study lies not so much in any single piece of information which is provided, as in the overall approach which it adopted.

The researchers identified three prerequisites for such an approach: (a) the conceptualisation of the essential interrelatedness of factors pertaining to the rural population, the implementation agencies, and the wider environment within which they exist; (b) the exploration of a broad range of organisational issues; and (c) the examination of both systems and organisational issues within an empirical framework. For this purpose, they gathered data from a large variety of sources and supplemented it by conducting their own surveys of the villagers or the client population, and the staff of the rural primary health centres and undertaking in-depth interviews with the relevant officials at the state and district levels. The study examines the family planning programme in 1971 and 1972, as it was organised and implemented by the Uttar Pradesh Department of Health in the five districts of Allahabad Division, namely Allahabad, Etawah, Farrukhabad, Fatehpur and Kanpur, which covered a population of over 10 million according to the 1971 Census.

The social and demographic characteristics of the rural population, attitudes towards family planning, and other factors which influenced the acceptance of family planning, were studied. The organisation of primary health centres, interaction between the extension staff and the rural population, and organisation, management and functioning of the programme at the district and state levels were also studied. A sample comprising as many as 45 primary health centres and 120 villages were covered. From this sample data were collected with a view to finding out how the different components of the family planning programme have been knit

together as an organisation. It is this interrelatedness of the different components within the organised complexity, as manifested in a family planning programme, which was the subject of investigation. This is the distinguishing feature of the study.

The researchers identified three major components in defining the family planning programme as a system : (a) the villagers or the clients; (b) the staff or family planning workers who interact with the villagers; and (c) the larger administrative system of which the workers form a part.

Thanks to the unique design of the study, its findings were clear and unambiguous: an infant mortality rate of 203, with the female rate going up to 233; only 30 per cent of the husbands and 8 per cent of the wives were ever visited by a family planning worker; even those who were visited were unable to recall anything about what they were told by the family planning worker; the husbands as well as wives had a poor opinion of family planning workers; only 2.6 to 3.7 per cent had been using clinical methods of contraception, with the family planning health assistant getting credit for only 11.7 per cent of the acceptors; the clients had a very low opinion of family planning work; only 7.1 per cent of the mothers were visited for maternal and child health purposes and only 1.3 per cent of mothers were assisted during childbirth and the few mothers visited mostly belonging to the higher status groups.

The data concerning the functioning of primary health centres, the district health organisation and the state health organisation are equally gloomy. The study provides conclusive evidence that the key variable within the system of family planning organisation in Uttar Pradesh is the organisations and management of the programme. The study thus underlines the fact that the primary task for activating the family planning programme in the country is the activation of the health services system at every level. If this task is not attended to, there is little hope of making any dent on the population problem through a family planning programme, the study concluded.

The relevance of programme factors in accounting for low levels of acceptance emerges most strongly in the finding that only a small portion of the village population had ever been contacted by government workers. Despite the existence of this programme for a number of years, and the development of a work plan that required that each eligible person should have been visited at least once a month by a government worker in connection with family planning, fewer than 10 per cent of the female respondents and less than 15 per cent of the male respondents indicated that this has been the case. This indicates that both client-and organisation-related factors were working to affect the acceptance of contraception among the villagers. While there is no doubt that basic poverty and illiteracy do

make for low levels of contraceptive acceptance, there were clear indications that changes in programme-related factors in the right direction could increase the level of acceptance.

This overview of the findings of the client survey allows an initial formulation of the basic dilemma of family planning in Uttar Pradesh: the acceptance of family planning is not very high among the client population but there is a potential demand that is thus far untapped. This raises the question of why a programme which was designed to affect contraceptive behaviour has failed to be more effective. What programmatic or organisational issues are associated with low level of contact between the villagers and the programme, and what are the characteristics of the organisation and its work patterns which seemed to have generated such apathy on the part of the villagers?

The study also concluded that changes in the programme were made on an *ad hoc* basis, not after systematic diagnosis of operational problem. Consequently, they have often created as many new problems as they have solved.

It was also observed that the use of coercive techniques, which is the predominating work style of the revenue department, and the sporadic use of substantial incentives, had done much to undermine the credibility of the programmes' educational strategy. Once incentives or coercion have been used, it is almost impossible to return to an entirely voluntary and educational approach. It was observed that villagers were not easily inclined to forget that previous adopters received as much as Rs. 100 or its equivalent when others were asked to consent without any compensation. Nor are they likely to trust the agents of governments who, not so long ago, were associated with coercive measures.

The most significant conclusions of the study are derived directly from its emphasis on *interrelatedness*. This has obliged the investigators to pay attention not only to the wide range of findings that emerge from a study as broadly conceptualised as the present one, but also to interpret this wealth of information in the light of more general principles. A number of problems have been cited. Each of these is important in and of itself, but what is more important than the listing of these problems is the recognition that they are not isolated but *interrelated*, that is, they are *systemic in nature*. Problems that are systemic in nature are problems that cannot be cured by facile, symptomatic solutions. Such measures usually founder on the fundamental shortcomings which caused a specific malfunctioning of the system in the first place.

One important assumption underlying much current thinking on family planning is that the policy dimension of the programme is sound, and that the fault lies in implementation. However, observations of the ever-growing gap between observed and planned client-transactions forces

one to raise the questions whether the policies and plans themselves are appropriate. The report of the study emphasised the importance of integrating a concern for organisational feasibility, conceptualised in broad-based and behavioural rather than formalistic terms, into the formulation of family planning policies. At present, consideration of organisational constraints scarcely enter into the policy-making process. To the extent that they are considered, the resulting organisational strategies are based on inadequate or non-existing empirical foundations.

The general guidelines concerning taking account of organisational feasibility in policy-making that emerge from the study are: (a) the strategy for client transactions that is chosen must be suited to the client population; (b) the organisational strategy must be suited to the client strategy; and (c) the organisational strategy must be suited to the institutional and political context within which it is implemented. The report ends by stating that it acknowledges the relevance of development in general and recognises that a family planning programmes offer just *one* means of reducing population growth. The researchers have argued that development and family planning are related both in a normative and an empirical sense.

## IMAGE OF THE FAMILY PLANNING PROGRAMME

The conclusions of Mishra and his colleagues are supported by those of the study of the 19 villages (Banerji 1973d; Banerji 1982a). The family planning programme ultimately presented an image which was just the opposite of what was intended. Instead of projecting an image of a movement which respected the dignity of the individual, democratic of approach and offering a free choice of methods and improved health services, the image in rural areas was that of an organisation which used coercion and other kinds of pressure tactics and offered bribes to entice people to accept vasectomy or tubectomy. There were, on the other hand, a few workers who invoked the pity of community leaders by making pathetic entreaties to them to give them some cases to save them from losing their jobs. To a large section of villagers, the inverted red triangle and the workers behind the banner invoked a feeling of strong antipathy.

### Follow-up Services for the Acceptors

There were numerous complaints from the villagers that they got no help from the organisation when they encountered complications following acceptance of family planning services. These dissatisfied acceptors freely spread scare stories. Failure to provide even a very rudimentary system

of health services, particularly curative services, tended to reinforce this negative image.

### **Unmet Demand for Family Planning Services**

Because of failure of workers to develop rapport with villagers, sometimes they were unable to meet their *felt* needs for family planning services. The negative response invoked by the highhanded attitude of family planning workers and the single method mass approach usually adopted by them often obscured the fact that many villagers actively sought family planning methods of their choice and that these demands remained mostly unmet due to lack of response from the field workers.

### **Instances of Induced Abortions**

There were several instances of mothers, who, failing to get suitable family planning services from the PHC, took recourse to induced abortions to get rid of unwanted pregnancies. This not only pointed to the failure of the programme to meet their needs for services but also drew attention to the failure of the programme to offer suitable abortion services to mothers with unwanted pregnancies.

### **Distribution of Nirodhs**

Most of the Nirodh users had to get their supply from commercial channels. The 'depot holders' were virtually non-existent and the free supply from PHCs, according to some villagers, often found its way into the market.

### **Prophylactic Services for Mothers and Children Through the Family Planning Programme**

Supply of iron and folic acid tablets and tetanus toxoid injections to pregnant mothers, immunisation and nutrition programmes for pre-school children and vitamin A supplements to children, all of which were supposed to be offered by the family planning programme, were virtually unknown in the study villages.

### **Response of Villagers to the Intensified Family Planning Programme of 1976**

Although there was considerable variation in the degree, two aspects become very apparent at the very commencement of the field work (Banerji 1977b). First, as a result of the efforts at the highest political and

administrative levels, it had been possible to activate functionaries at the very lowest level to 'do' family planning work. And, second, the response of the community was correspondingly sharp, so that it was not difficult to identify the basic character of this response.

Depending on the degree of intensity of implementation of the intensified programme at various centres, persons who accepted family planning during its implementation fell broadly into five categories which are discussed below:

(1) *Those who had their earlier felt needs for family planning services satisfied or were motivated during the programme:* In both studies, it was observed that there was some degree of felt need for family planning services which remained unmet because of limitations in the approach of family planning workers. In all the villages this unmet felt need was covered, thanks to the intensification of the programme. In addition, there was also a small group which was motivated to accept sterilisation as a result of the efforts of the political leadership, family planning personnel and the mass media. This category, however, constituted only a small fraction of the acceptors.

(2) *Those who responded because of enhanced monetary incentives and pressure:* Family planning and health workers were assigned specific sterilisation targets and they faced the prospect of administrative action of varying degrees and severity if they did not achieve them. Punishments included withholding of salary, withholding of increments, unfavourable entries in character rolls, transfers and even suspension from service. Among the eight states studied, Gujarat stood out prominently as being the mildest in its 'intensification' of the programme; putting pressure on village family planning workers being the upper limit of its efforts. In the other seven states, efforts went well beyond this limit.

(3) *Those who responded to pressure from personnel of other governmental agencies and from commission agents:* In states like Haryana, Uttar Pradesh and Rajasthan, the entire district government machinery, under the leadership of the deputy commissioner/collector, with full backing from superior officers, including the political leadership of the government, was mobilised to exert pressure on the people to accept sterilisation. Those who responded constituted a sizeable proportion of acceptors. Procurement of cases was tagged on as a pre-condition for a very wide variety of activities which involved interaction of the public with a government agency of almost any kind. A high point in the application of pressure of this type was the allocation of sterilisation targets to school teachers—with all the accompanying threats of punishment, if they failed to achieve targets. Interviews with different categories of government functionaries who were involved in the programme revealed that imposition of such intense pressure on them created acute personal problems and often caused consider-

able hardship to a number of them. This desperate demand for cases by a very large number of very hard pressed government personnel and the offer of monetary incentives for getting acceptors created a new variety of middle man—a *dalal*, a commission agent, who bailed out officers in distress by procuring cases for them at a price and who also carried on 'business' with or without the collusion of the PHC staff by getting 'false' or non-eligible cases or by underpaying the acceptors. The presence of such *dalals* was also noted in the 1973 study (Banerji 1973d). Redoubling of this pressure on a large number of government servants led to a very rapid proliferation of this 'professional' group.

(4) *Those who responded because of the distress caused by scarcity conditions:* This element played a substantial role in the villages of West Bengal, Karnataka, Tamil Nadu and Kerala. An offer of Rs. 120 or more as an incentive proved too tempting to resist for persons in acute distress. This temptation was the critical factor in the motivation for sterilisation among many eligible couples. However, the same force drew in many who were demographically of little or no consequence; e.g. those undergoing repeat 'sterilisations' themselves or getting their spouses sterilised, the elderly, widowers, and those whose last child had already grown up. Distress conditions gave boost to the activities of *dalals* and others who wanted to make quick money by 'motivating' such people.

(5) *Those who 'responded' to organised raids by parties enjoying police assistance:* Reports of such raids were received from the villages in the states which were found to have put up particularly strong resistance to the family planning programme in the earlier years of the study—Rajasthan, Haryana and Uttar Pradesh. Field study by the faculty and students of the Centre of Social Medicine and Community Health of Jawaharlal Nehru University revealed that similar methods were also used in Punjab and Madhya Pradesh. This was a new element in the programme, representing yet another escalation in coercive measures to promote the family planning programme.

### **Implementation of the Other Components of the National Population Policy**

Intensified maternal and child health services was one of the major planks of the national population policy of 1976. Unfortunately, instead of being intensified, this programme had received a very serious setback as a result of the intensification of the family planning programme. This was not simply because fixation of family planning targets for maternal and child health workers had led to a virtual abandoning of the entire programme, but even much more importantly, because the credibility of these workers, as indeed of all health workers, had received a very serious setback as a result of their identification with the open exercise of force

and coercion for getting cases for sterilisation. Simultaneously, there was no evidence that efforts were being made to prepare the rural population for implementation of the laws concerning age at marriage, nor was any special effort made to strengthen the educational facilities for girls upto the middle school level. In fact, forcing of family planning targets on school teachers had the opposite effect.

The image of the primary health centre touched a new low when suffering patients were denied medical care because they were not able to get evidence of their or their parent having undergone sterilisation. In sheer desperation, more and more people turned to private medical practitioners of various kinds. Reports of mass refusal to accept immunisations from the public health institutions, fearing that these were surreptitious ways of sterilising children, indicate the depth of the crisis of confidence of the community in its health institutions.

However, there were important changes in the situation with the change of government in 1977. Policy changes included, among others, total abandonment of all forms of coercion in the implementation of the family planning programme. The tensions of government functionaries at all levels, including PHCs were relieved. People no longer lived in fear of terrorisation and extortion by petty officials or the law enforcing machinery. Most of all, people could once again go to government institutions of various kinds without having the fear of being forcibly taken away to sterilisation camps.

The long-term study shows how the sweeping policy changes of 1977 generated a feeling of liberation among the people. This was strongest in Haryana, Rajasthan and Uttar Pradesh, where people had suffered most from excesses of forcible sterilisation (Baneji 1982a : 151-60). In all three states, sterilisation achievement in the next year fell by 67 to 80 per cent (Banerji 1980c). In the southern states of Karnataka, Kerala and Tamil Nadu, which did not undergo any political changes, sterilisations achievements also fell by more than 55 per cent. The case was similar in Gujarat as far as response of the people was concerned.

The failure and subsequent abandonment of the mass sterilisation programme was a most expensive failure in terms of:

- (a) cost;
- (b) human suffering;
- (c) generation of antipathy for the programme among the people, and
- (d) acute demoralisation of hundreds of thousands of family planning workers.

The disaster of the intensified programme has brought about a basic qualitative change in the people's perception of the family planning pro-

gramme. A mere rehash of the old approach can no longer carry much conviction with them. But, while political leaders and planners have kept up the refrain that control of population growth is too urgent to brook delay, they have conveniently overlooked, as pointed out by Mishra and his colleagues, that this urgency calls for urgent action in the direction of basic change in family planning organisation at all levels—policy and programme formulation, programme implementation, and programme evaluation (Mishra et al 1982). It is indeed unfortunate and even tragic that even now decision makers and planners do not see what is so obvious: that a mere refurbishing of the old, repeatedly discredited clichés—e.g. education, population education, mass information campaigns, target orientation, incentives and disincentives, use of force, utilisation of voluntary agencies, etc., simply will not work. Unfortunately, the Sixth Plan (1980-85) gives a mere rehash of the same old concoction which has repeatedly proved to be not only inadequate but downright counter productive.

### **ANALYSIS OF THE PRESENT (1983) POSITION**

The studies discussed above have been dealt with in some detail as the conclusions drawn from them are very relevant even today, though there have been major change in and additions to the programme. The implementation of the Multipurpose Worker (MPW) and Community Health Volunteer (CHV) Schemes, the expansion of the Post-Post-Partum Programme, the use of laparoscopy for tubectomy and the extensive development of Area Projects, are some of the changes that have taken place. A review of the progress of work in these fields reinforces some of the conclusions already drawn. Similarly, evaluation of the India Population Project-I and analysis of the process which led to the formulation of the Model Plan underscore the deep-seated inadequacies that persist in the implementation of the programme.

Perhaps, the most significant aspect of the present family planning programme is that even though, following the traumatic experience of the Emergency, most wide ranging policy changes have been approved and accepted by the Government of India, there has been virtually no change in the existing organisational structure. As far as the management is concerned, because of persistence with an organisation incompatible with the task which it is expected to perform, there has in fact been a distinct deterioration in the situation.

### **FOLLOW UP ACTION BY PARLIAMENTARIANS**

It is now over four and a half years since the first National Conference

of Parliamentarians for Problems of Population and Development made its sweeping Declaration and elaborate Recommendations which culminated in the adoption of five resolutions. Since then there have been a number of international conferences and seminars, mostly with active support from UNFPA. These have been referred to underline the thinking amongst elected representatives from virtually the entire political spectrum of the country—only the Communist parties did not participate.

It was resolved that all elected representatives, from panchayats upwards, would give a concrete demonstration of their determination to seek vigorous and speedy implementation of the programme in the very next session of their respective bodies. They would also undertake house to house education, contact at least 1,000 families each year, and set up constituency-level committees and promote general community involvement. One does not have to undertake an elaborate research study to come to the conclusion that not even one per cent of all that had been resolved more than four and a half years ago, by those who claim to represent the people of the country, has been translated into reality.

This eminently sums up the nature of the crisis within the country: the elected representatives of the people, have shown themselves incapable of doing what they had proclaimed at the conference. This exposes the yawning gap between the masses of the people and those who claim to represent them. In fact, India is today facing a very serious population problem because those who claim to represent the people and articulate their aspirations have not performed their elementary duties.

The task ahead is, therefore, to promote democratisation among the masses to such an extent that they will make it increasingly difficult for parliamentarians and other elected representatives to get away with making loud declarations and recommendations and passing resolutions in UNFPA-sponsored conferences at national and international levels. The implications of such democratisation extend, needless to say, far wider than the areas of health and family welfare and extend, indeed, to all aspects of national life.

## INFLUENCE OF SOCIAL AND POLITICAL FORCES

### **Bias in the Information System**

Understandably, there is sometimes a tendency amongst organisers of a programme, who have staked their personal or professional prestige on it, to attempt to present the performance of the programme in the best light. At times, it even becomes a matter of putting on an elaborate deception. Sometimes, when the stakes are high, it takes the form of a fierce campaign

in public relations and propaganda. When a programme is vulnerable to criticism, one way of protecting it is to see that it is not evaluated at all. No feed-back information system, no systematic evaluation, either internal or external; if organised, access to data to outside scholars is blocked. In some cases, a psychological situation is created in which workers are encouraged to submit 'data' which tend to fulfil the prophecies of the programme organisers and are suitably rewarded. Persons who submit data that are not very palatable, however reliable, are frowned upon.

These tendencies get accentuated when the organiser happens to be a generalist administrator, who wants to give a good account of himself so that he can climb up to the next rung in the hierarchy or who somehow wants to keep the lid tightly on till he finally retires. A recent tendency has been to please officials from foreign agencies by doctoring data according to the interests of these agencies in the hope of getting financial and other support from them (Bergstrom 1982).

It must, however, be emphasised that such falsification is certainly not the rule. There are many programme organisers who are prepared to subject their programmes to the most thorough scientific scrutiny. Moreover, there is the question of accountability of the programme organisers to elected bodies and to the public at large. Ultimately, if a programme is intrinsically unsound, no amount of suppression of information, public relations exercises and propaganda campaigns can protect it indefinitely.

### **Population Control and Social Structure**

Population control has become a particularly sensitive issue in India because highly placed persons in the political, administrative and academic fields have staked their personal prestige on the programme. Because of the interest of a number of affluent industrialised countries of the West, it has also become an issue in India's international relations with considerable involvement of many influential foreign agencies in the programme (Demerath 1976; Gunnarsson 1980). Powerful international agencies, like the World Bank and the International Monetary Fund have also tended to link up their activities in the country with India's efforts to grapple with its problem of rapid population growth. United Nations agencies have also been involved, in addition to the specialised United Nations Fund for Population Activities (UNFPA).

There are a number of reasons why the problem of population control in India should have aroused such widespread concern and become a major issue in national as well as international politics. Foremost among them is that the family planning programme, as it has been implemented for over a quarter of a century in India, has been essentially a campaign by the privileged classes (who occupy key positions in the

political, economic, administrative and academic fields) to make the rest of the population limit their family size (Pethe 1981; Banerji 1980).

This campaign has in fact taken the form of a war in more than one sense. The family planning programme was indeed visualised as a war against fast-growing numbers—to prevent a population explosion, to defuse the 'population bomb' or the 'demographic time bomb' (Government of India 1969). Measurement of achievement of a family planning worker in terms of the number of persons sterilised has the familiar ring of the 'body counts' of the Vietnam War. The campaign can also be viewed as a war between the 'classes' and the 'masses'—a class war. This class war indeed took the form of a really hot campaign of a warfare during the Emergency of 1975-76, when firearms were actually used to force some people to subject themselves to sterilisation (Banerji 1980c; Banerji 1977b; Minkler 1977). Even before this event, in this 'war against numbers' coercion was being used in various covert forms in different places. Sometimes it was revenue staff, sometimes it was jail authorities, sometimes it was the judicial system and sometimes it was the police force which was used to force unwilling persons to accept sterilisation (Banerji 1977b). Many of the states had indeed made considerable progress in enacting laws to make sterilisation compulsory after the birth of a given number of children (Visaria and Visaria 1981). The state legislature of Maharashtra had in fact enacted the law and had made elaborate arrangements for performing operations on the millions who would be forced to get sterilised when the government was ready to enforce the law (Pethe 1981: 137-64).

From the standpoint of the people, who are expected to participate in the programme, the drive to tackle the problem of population growth on a 'war footing' arouses varied reactions. To a small segment of the population, it is considered as a very serious problem which poses a threat to the entire society. Many of them have adopted a small family norm, often on their own. There are many others who wish to have a small family but who are unable to get the type of services they require from the personnel who are running the programme. This is not only because the needs of this category of people are not consistent with the running of the programme on a 'war footing', but it is also because there have been major shortcomings in making family planning services actually accessible to those who already have a felt need for them (Mishra et al 1982; Banerji 1973d).

But to a vast majority of the people aggressive promotion of birth control is perceived as an intrusion into the extremely private affairs of individual couples (Banerji 1973d). The intrusion becomes all the more unwelcome when these people lose as many as one out of every five or six children born within one year. The mothers also suffer high rates of

mortality and morbidity during pregnancy and childbirth. As has been pointed out earlier (Banerji 1974; Banerji 1977d), these people suffer from extensive malnutrition, undernutrition and various other forms of preventable diseases. The ecological conditions under which they are forced to live are extremely hostile. Their entire future and the future of their children seem bleak (Banerji 1982a: 71-82). Under such conditions, it is difficult for them to perceive the benefits of a small family. If they have a small family, will the children have a chance of survival under their harsh living conditions? What will happen when a sterilised couple loses their only son who was looked up to as its only support in old age? Furthermore, they do not see, and indeed it has never been convincingly demonstrated, that having a small family is for them really a way of getting relief from the very harsh conditions under which they are compelled to live (Bergstrom 1982).

In fact, promotion of birth control on a war footing brings to the fore, at least unwittingly, the simmering class antagonisms within the population. How is it that those who have been so unfair and unjust in the distribution of community resources in almost all walks of life, suddenly become so much concerned about the family size of this grossly neglected mass of the population? This eagerness of the privileged classes to implement the family planning programme among the masses gives the masses an opportunity to bargain with their tormentors. They can now tell the privileged classes that a small family norm is meaningful to them only when they get a better deal from them and they have something better to look forward to in the future. In other words, the urgency for dealing with the serious problem of population growth gets linked up with the equally urgent task of reallocation of community resources to build a more just and equitable social order.

### **Control and Management of Knowledge**

India's family planning programme also provides very disturbing examples of the ways the family planning policies, plans and programmes have been doctored to subserve certain interests within the country and abroad (Banerji 1980b; Bergstrom 1980). The programme was considered very important as the population explosion threatened the very existence of the system in which the power elites of the country as well as their supporters in foreign countries had a great stake. Using their enormous resources, family planning promoters have managed to mobilise a very large number of scientists and scholars to 'sell' their 'product'. As in many other situations, a horde of foreign advisers were attached to this group of family planning crusaders to 'advise' them on how to fight this war against rising numbers.

A large number of generously funded new institutions dealing with different aspects of family planning came into being at national, state and regional levels to provide academic bases for this new brand of intellectuals. Other prestigious national institutes, such as Indian Institutes of Management, Administrative Staff College, Indian Institute of Public Administration, Indian Institutes of Technology, National Council for Educational Research and Training, Indian Institute of Mass Communication, Space Applications Centre of the Indian Space Research Organisation, All India Institute of Medical Sciences and All India Institute of Hygiene and Public Health were mobilised to lend their weighty support to the programme (Banerji 1980b). A large number of specially funded centres or groups to study Indian's population problems also came up in the affluent Western countries, particularly in the United States (Demerath 1976).

The United Nations itself and its various agencies have also been brought into the programme. The World Bank had launched a \$ 31.8 million India Population Project-I in the mid-seventies. The United Nations Fund for Population Activities (UNFPA) has its own extensive programmes. The WHO has a Special Fund to finance major research programmes on reproductive biology. Not to be left out, UNESCO has carved out for itself an interest in family planning communication and population education. UNICEF has joined in on the plea of promoting the health of the mother and the child. Even the ILO and economic and social agencies like the Economic and Social Council for Asia and the Pacific (ESCAP) also found it worthwhile to add their mite to the movement (Banerji 1980b).

These UN agencies should have been able to take a sober view of India's population problem (as, for instance, was done at the World Population Conference at Bucharest, *in spite of the UNFPA*), but the political power of the funding countries was such that they ended up as tools to promote the campaign of sterilisation, with all its elements of 'coercive persuasion'. The banner of the UN was exploited by family planning organisers to give an aura of respectability to their activities.

This crusade against the rising numbers provided ideal conditions for the working of what Stanislaw Andreski has described as 'The Law of the Lighter Weights Rising to the Top' (Andreski 1972). Indeed the lightweights fitted in well with the scheme of the organisers. They are malleable, they have less scruples; they can easily be dressed up suitably and planted at key positions in the family planning academia; and, most important, they can be trusted to build an organisational culture of mediocrity, and to systematically suppress 'deviant' thinking and action within the organisation and isolate, overshadow and even overpower and liquidate those from outside who dare to challenge the postulations of the family

planning academia (see for example, Pethe 1981; Gunnarsson 1980; Demerath 1976; Banerji 1970a; Banerji 1980b).

This domination of the field by the propagators of a family planning ideology with the help of abundant resources and massive political power has been by far the most disturbing aspect of India's family planning programme. This power has provided them with an almost impregnable shield to get away literally with anything, including forcible sterilisation. In the last three Five Year Plans the family planning programme has cornered for itself as much as 20-25 billion rupees (as current prices) of this very poor country and quite a substantial part of this money has been lost in such disastrous ventures as the 'extension approach', the IUD drive, the massive 'mass communication' drive, the target-oriented time-bound programme, the mass vasectomy camp approach and, finally the forcible sterilisation drive of the Emergency. Few have been held accountable for the enormous waste of public funds. The family planning establishment has continued to thrive and the lightweights have continued to rise to the top at an accelerated speed.

A matter of still deeper concern has been the response of the not-so-light-weight academics, political and social leaders, and others who were not part of the family planning establishment, to the distortions in the family planning programme. The Ernakulam Mass Vasectomy Camp of 1970 (Krishnakumar 1971a; Krishnakumar 1971b) provides a good example. The communist state government of Kerala allowed the collector of Ernakulam, a very dynamic individual, to use all his powers, including revenue powers and developmental patronage, to 'motivate' people to accept vasectomy. It was lean agricultural season and the World Bank/UNFPA/SIDA (Swedish International Development Authority) came forward with extra funds (from the usual Rs. 10 to well above Rs. 100 plus 'gifts' in kind) to attract people; and mass communication media were used extensively to provide support to the camp. There was considerable excitement in New Delhi, New York and Washington when, against a 'target' of 30,000 vasectomies, the collector 'obtained' 65,000. The collector became a very sought after person, both in national and international gatherings on family planning. The Government of India, with full support from the World Bank, SIDA and UNFPA, followed this up by instructing collectors and commissioners in other districts all over the country to replicate the Ernakulam experience. These collectors and commissioners held camps on the Ernakulam Model and they competed with each other in terms of the number of people they roped in for sterilisation in order to get laudatory entries in their service records (National Institute of Family Planning 1973). This assault on the dignity of the exploited and helpless people did not evoke much response in the legislatures, from political platforms, from seats of learning, and from the Press. The performance of

vasectomies on railway platforms in Bombay drew approbatory headlines in the national press. The family planning zealots in Maharashtra allocated targets to police personnel and the Maharashtra Legislative Assembly passed the law on compulsory sterilisation (Pethe 1981: 137). This trend continued during the forcible sterilisation drive of the Emergency. As the wrath of the masses against this outrage is cooling down, the Malthusian family planning establishment is staging a comeback under the garb of what is called the 'Model Plan' to pave the way for launching yet another assault on the people (Bergstrom 1982).\*

### INTERVENTION OF FOREIGN AGENCIES

In his book, *Birth Control and Foreign Policy* (Demerath 1976), Nicholas Demerath, Sr., has given a detailed and well documented account of the various ways in which India's family planning programme has been sought to be influenced by the US Government (USAID) and other US agencies like the Population Council, the Ford Foundation, the Population Crisis Committee, the Council of Foreign Relations and the programmes sponsored by numerous universities, church organisations, the International Planned Parenthood Federation, and other voluntary associations. Lars Bondestam (1980) has given a detailed account of how, pursuing a given political ideology of population control, the UNFPA made an attempt to sell to the World Population Conference at Bucharest a draft declaration which had pronounced Malthusian overtones. However, when the Conference rejected this line and made what is now called as the Bucharest Declaration, proclaiming that 'development is the best contraceptive', the UNFPA, along with other international agencies, 'retaliated' by treating the Bucharest Declaration a mere scrap of paper and continued to promote many activities which went diametrically against the Bucharest mandate. Bo Gunnarsson (1980), in his description of Japan's birth control ambitions in Third World countries like India, has also brought to light most disturbing facets of the role of this country in pressurising other countries in Asia to follow a population programme which is most obviously Malthusian in its approach. In a recent paper (Bergstrom 1982), Staffan Bergstrom has documented how the Government of India, in collaboration with agencies like the World Bank, UNFPA and SIDA have launched a programme which essentially attempts to implement, in a disguised form, Malthusian birth control measures under the Model Plan (Area Projects) of the Government of India.

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\*Newspaper reports (*The Times of India* Sept. 29, 1985) on the tubectomy tragedy in a PHC in Sholapur (Maharashtra), involving a death and many serious complications due to gross negligence, are grim pointers,

## HEALTH PROBLEMS, HEALTH PRACTICES AND POPULATION GROWTH

Health problems, health practices and population growth are closely linked with the ecological setting of a community. Health problems are, in effect, a function of the human ecology and the community's response to them is a function of its health culture. Thus, there exists a dynamic equilibrium between the ecological setting on one hand and the community's response to the health problems (arising out of the ecological setting) on the other. The nature of this equilibrium, in turn, has a bearing on the rate of population growth. An unfavourable equilibrium formed by a poor ecological setting and an inadequate cultural response to the health problems is usually conducive to a higher rate of population growth.

It is now realised that the earlier contention that the so-called population explosion and demographic transition are the results of a steep fall in the death rates due to public health measures (including the oft-quoted role of DDT in malaria eradication), without a corresponding fall in the birth rate, does not fully explain the phenomenon (Banerji 1980c).

In the first place, there has been a gross over-estimation of the impact of public health measures on the fall in birth rates, and in this process, much more complex but significant ecological, biological and epidemiological issues which have promoted major shifts in the host-parasite equilibrium within the populations have not received due attention (Banerji 1976).

The second issue concerns the very wide field of social, economic and political factors that are responsible for the creation of the poor ecological conditions and correspondingly poor health services and the social and cultural implications of such conditions. In an unjust social system it is in fact unreasonable to expect the exploited classes to have an equally high stake as the exploiting classes in the survival of the system when it is threatened with a massive population explosion (Banerji 1980c).

Political leaders, administrators, social demographers and foreign experts of various denominations have, by and large, not paid adequate attention to such fundamental issues and managed to persuade themselves that birth rates can be brought down within such social systems by embarking on large-scale extension education, mass information, monetary incentives, or administrative measures or by adopting coercive tactics of various kinds and intensities (see, for example, Gunnarsson 1980, Government of India 1976a, Banerji 1971a).

Health, in the widest meaning of the term, is conducive to the formulation of a more balanced demographic equilibrium. When a

population is healthy, not only is there a much more effective exploitation of the natural resources and equitable distribution of income, but the very state of being healthy promotes a family size norm which is consistent with a 'healthy' demographic equilibrium. Further, under such conditions, it becomes much easier to actively apply correctives, in case the demographic situation warrants such a purposive intervention, as under such conditions the persons concerned are much more receptive, the media of mass communication are more developed, and there is also a stronger infrastructure to provide services for family limitation.

There are also considerable possibilities of influencing population growth when efforts are made to provide health services to total populations as a part of an overall programme of improving its health status. This has many favourable demographic implications. Apart from possible reduction of mortality, reduction in morbidity, which creates a setting that is favourable for acceptance of family planning, the very alleviation of the suffering due to disease by the health services inspires the confidence of the people in the family planning programme, when it is offered as an integral component. Further, viewed only from an administrative angle, development of a sound network of health services to cover the entire population provides a very valuable scaffolding around which a network of family planning services can be conveniently developed to cover the whole population.

Reciprocally, success in promoting a small family norm by promoting family planning has major health benefits. For instance, avoidance of stresses and strains of pregnancy, labour and childbearing as such can be a significant contributory factor in improving the health status of mothers and children in particular, and of the families in general.

## **ANALYSIS OF POLICIES AND PLANS**

The record of planners in the field of population control is a dismal one. Perhaps, by far the most critical shortcoming in their approach has been that they have identified themselves with the contention of the political leadership that 'gains of development are being eaten away by the growth in population'.

The decision makers committed a very fundamental error in taking a very narrow view of the problem of rapidly rising population growth in India. They did not appreciate adequately that, for controlling population growth, a family planning programme forms merely a component of a wider spectrum which embraces a combination of programmes for dealing with a variety of social and economic problems.

Population control was considered, rather simplistically, to be a precursor of developments in other social and economic fields.

It is significant that the family planning programme was singled out by the planners as almost the *exclusive* channel for investing resources for controlling population growth. The programme was accorded the top priority, over all other programmes for social and economic development: resources were made available for the family planning programme even if it meant their diversion from health programmes and other programmes for social and economic development. Policy planners sidetracked work on the country's basic problems of poverty, social injustice, ill-health, unemployment and illiteracy, and attempted, instead, to bring about a decline in the birth-rate through a gigantic birth control programme. What is more, as a 'crash programme', the birth control programme *crashed into* other social and economic development programmes, causing them considerable damage.

Predictably, the programme organisers looked up to Western countries for help in formulating India's family planning programme. The clinic approach, which was adopted in the early fifties was an imitation of the approach adopted by the Planned Parenthood Federation in Western countries. Commenting on this, Gunnar Myrdal has observed (Myrdal 1968: 2156-57):

. . . in the main only one way of implementing the family planning was considered—the Anglo-Saxon, and more particularly American, way of setting up specialised clinics to advise women individually, about suitable methods of birth control. . . The responsibility for slavishly following the Anglo-Saxon patterns in India should be placed less on the Western expert advisers than on the upper class, westernised India planners. Their restricted view in this respect is another incidental example of the colonial legacy. .

The failure of the mass vasectomy camp approach indicated to the decision makers that there was very little scope for further pressurising people into accepting birth control measures. This failure, in fact, impelled them to recognise, in early 1974, the need for *concurrently* improving the health and nutrition status of the people. This realisation also made them aware of some other social and economic determinants of a small family norm—for example, education, employment and social justice, including an equitable status for women. About this time, the Planning Commission came up with a Minimum Needs Programme in the draft of the Fifth Five Year Plan to make 'a frontal attack on poverty' (Government of India 1974b). This programme included the package of integrated health, nutrition and family planning services suggested by the Union

Ministry of Health and Family Planning. 'Development is the best contraceptive', became the new watchword of the family planning programme (Singh 1975).

Implementation of this population policy required certain basic structural changes in the society to make possible a shift of additional resources and efforts to the poverty-stricken sections of society. This shift was required in almost all segments of the social and economic development programmes of the country. Specifically, within the limits of a Family Planning Programme, it required a virtual revolution, involving far-reaching changes in the entire system. This ought to have led to a total renovation of the entire decision making machinery and a thorough rejuvenation of the entire machinery for implementing the programme, including the critical areas of education, training and research.

It soon began to be realised that the efforts made to bring about such changes at the political, economic, bureaucratic and professional levels were very inadequate. This inadequacy became palpably apparent in implementing the Minimum Needs Programme. However, instead of giving substance to the concept of 'development as the best contraceptive', an effort was once again made to raise the spectre of population explosion to obtain yet another lease of life for the coercive methods to promote family planning.

## **CONCLUSIONS : A CRITICAL ISSUE IN POPULATION CONTROL**

Notwithstanding all the figures issued officially about sterilisation achievements, number of births prevented, and percentage of eligible couples protected, data from the 1981 Census make it abundantly clear that the population of India continues to grow at a very disturbingly high rate and that, to cope with this very serious problem, adoption of a 'more of the same' approach will have disastrous consequences for the country. There is now enough evidence to show that a hidebound target oriented approach, with monetary incentives and disincentives, mass communication drives to 'sell' family planning, population education, and involvement of the voluntary agencies, has not had the desired impact. The population of India has doubled in the past three decades and a stage has now been reached when, because of the compounding or exponential nature of the growth, it is becoming more alarming literally with the passage of each day.

It is obvious that very urgent and very drastic action is needed to stem the rate of population growth in India. It is fortunate that this time the drastic solution suggested is qualitatively different from the drastic solutions of the past. The policy now is to generate motivation for adoption

of a small family norm by extending considerably the base of the family welfare programme. Apart from providing effective and efficient family planning services, the policy envisages inclusion of services to cover areas such as health (especially maternal and child health), nutrition, water supply and sanitation, raising status of women, education, employment, social justice and land reforms.

Against the background of the very grave nature of the problem, the prompt and appropriate response of the government to it, and the wide public support to the government's new policy, it is a matter of serious concern that there have not been corresponding changes in the organisation and management of the national programme. The programme still goes on in its old way. It continues to provide 'more of the same'. Generalist administrators, who cannot be expected to have the wide range of interdisciplinary competence necessary to implement the new policy, continue to provide leadership to the programme. Worse still, they cannot be held accountable because after sometime they get shifted to entirely different departments. Under such leadership, it is not surprising that the government should have launched the very expensive Area Projects in different states, which literally amount to doubling the same old programme, without *first ensuring* that the programme is made more effective and efficient and that it develops the intersectoral dimensions envisaged in government policy. Again, under such conditions it is not surprising that once again it is being claimed that a massive communication drive is all that is needed to make family welfare a peoples' programme, notwithstanding the disastrous experiences with the massive drive to promote the inverted red triangle or, for that matter, the failure of the Satellite Instructional Television Experiment (SITE).

Obviously, a basic shift in the policy should be accompanied with a basic change in the organisation and management of the family welfare programme. Data presented in this chapter show that there is considerable scope for administrative action to make the programme more effective and more efficient. Similar action is also needed in the other sectors which generate motivation for a small family norm. Finally, there is also critical need for the formation of a supra-ministerial agency which would provide the integrative linkages among the wide spectrum of services for dealing with the problem of population growth in India.

Managers of the family welfare programme are also required to face the formidable problem of low performance states like Uttar Pradesh, Bihar, Rajasthan and Madhya Pradesh, which account for about two-fifths of the total population of the country. Their performance is low not because their people are innately conservative, as is sometimes derisively maintained about the so-called Hindi Belt, but because they have suffered considerable neglect, deprivation and exploita-

tion, as a result of which they rank low in terms of per capita income, prevalence of hunger, education and literacy, mortality and morbidity rates, and health services (Table 9.13). The task for the managers will be to reverse these trends by improving organisation and management of an integrated family welfare programme. Without such action in these states, it would be unrealistic to expect a major impact on the growth of population in India.

To be able to perform such challenging tasks, managers of the programme must have a wide range of interdisciplinary competence. They will also have to be assigned to the programme on a long-term basis and held accountable for their decisions. Obviously, the leadership of the programme should not remain the exclusive preserve of generalist administrators, who come to the programme as birds of passage. Unless action is taken urgently to bring the organisation and management of the programme in line with the policy decisions, the consequences of unbridled population growth are going to become manifest much before the figures of the 1991 Census start coming in.



## PART FOUR

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### FORMATION OF PRIMARY HEALTH CARE SERVICES

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## INTEGRATED RURAL HEALTH SERVICES THROUGH PRIMARY HEALTH CENTRES

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THE Primary Health Centre (PHC) concept implied delivery of integrated health services through an appropriate institutional framework to the smallest unit of population possible. Long before independence, the primary health centre experiment was made in various places in India through the establishment of self-help and auxiliary workers units (Dutt 1965 : 6). Their success in reducing morbidity and mortality due to various diseases was significant and led to widespread acceptance of the theoretical and practical PHC model for rural areas of developing countries. The advocates of community self-help and participation in improvement in public health stood vindicated.

The Bhore Committee gave form to this model in its long- and short-term plans in which the PHC constituted both the periphery as well as the core of health services development proposed for the country (see Chapter 2).

However, it was only after independence that these schemes could be put into operation. The establishment of a PHC network throughout the country was taken up as an integral part of the Community Development Programme (CDP) launched in October 1952. The Central Council of Health in its first meeting of January 1953 endorsed the principle of integrated development of community life. It was agreed that one PHC for each block was essential as part of the CDP. This PHC was intended to be the nucleus for all health activities in an area, providing integrated preventive and curative health care.

The PHC now forms the institutional core of national health planning. But for quite some time after the country's independence, the PHC network which was established was, in respect of staffing, a far cry from the 'irreducible minimum' of staff which had been recommended by the Bhore Committee even for its short-term scheme. Each PHC had only

one medical officer, one sanitary inspector, one lady health visitor, one compounder and four auxiliary nurse midwives. This skeleton staff was expected to cover a population of 60,000. There were also other basic problems. Staff of all types could not be trained at a pace commensurate with needs; many did not have proper orientation, nor proper supervision and guidance. Funds were a major bottleneck, apart from shortage of material, equipment, transport, buildings etc. (Dutt 1965 : 144-45).

The Health Survey and Planning Committee (Mudaliar Committee), which submitted its report in 1962 (Government of India 1962), making an assessment of the operation of the PHC Scheme, said (p. 93):

The primary health centre programme as it has developed bears no resemblance to that visualised by the Bhore Committee . . . The programme needs to be radically revised. . . .

What the Mudaliar Committee recommended was consolidation than rather expansion; that staffing of existing PHCs should be strengthened to reach the level recommended by the Bhore Committee and that they should be required to serve a population of 40,000 instead of 60,000 as then laid down. The Committee recommended further that no new PHCs should be opened without a full complement of staff and that treatment of non-PHC population should be through mobile services from district and taluk centres rather than through poorly equipped PHCs. Only 'when facilities in regard to personnel, finance and other requirements are sufficiently enlarged, the Bhore Committee formula of Primary Health Centres can be adopted,' the report stressed.

However, early 1960s witnessed a rapid increase in the number of the PHCs. The launching of the National Malaria Eradication Programme, the National Smallpox Eradication Programme (Basu, et al 1979 : 27-28) and the adoption of the extension approach to the Family Planning Programme provided a major boost to this development (Government of India 1963). This expansion of the staff of PHCs was both at the grass-roots as well as at the supervisory cadre level. The description of functionaries of the PHC and their various responsibilities gives an idea of the organisation and implementation of special programmes and health services in general at the lowest levels (see also Chapter 9).

In the sixties, the Auxiliary Nurse Midwife (ANM) (one for every 10,000 population) was responsible for maternal and child health work and family planning work among women. Every four ANMs were supervised by a Lady Health Visitor (LHV). A family Planning Health Assistant (FPHA) (one for 20,000 population) did family planning work among men and every four FPHAs were supervised by a Block Extension

Educator (BEE), who was responsible for family planning extension and communication work for the entire population of the PHC. A Basic Health Worker (BHW) (one for every 10,000 population) mainly did malaria surveillance work (locating fever cases by house visits), preparing blood slides, and providing presumptive malaria treatment to fever cases and radical treatment to confirmed cases. Every four BHWs were supervised by a Health Inspector (HI). In some PHCs there was a Vaccinator for every 20,000 population and every four Vaccinators were supervised by a Sanitary Inspector, who also looked after the environmental sanitation of the area covered by a PHC. Usually, there were two Medical Officers (one of them being the Officer-in-Charge) who provided medical care at the daily outpatient clinics and at the PHC hospital which had 6-20 beds.

The population served by the PHC also got services from personnel belonging to special mass campaigns, e.g. BCG vaccination and, at places, specific services related to leprosy, filariasis, cholera, trachoma and even plague.

In 1963, a Government of India committee (Chadha Committee) (Government of India 1963) recommended that rural populations may be provided integrated health and family planning service through male and female multipurpose workers—each worker serving a population of 10,000 at the initial stage, but the clash in the functioning of malaria and family planning campaigns led to the setting up of another committee in 1966 (Mukherji Committee) (Government of India 1968b), which recommended the reversion to the use of unipurpose workers for family planning work.

In its review of the functioning of PHCs, the Report of the Committee on Multipurpose Workers (Kartar Singh Committee) (Government of India 1973a) again criticised the separation of duties of various health workers and the lack of coordination among them, both in the field and at the supervisory level. This was largely because various health programmes and, later, the family planning programme, have been launched at different times, and each was devised to run vertically, with its own staff.

It was felt by the Kartar Singh Committee that the smallest unit of population could be better served by coordinating these programmes and pooling the personnel. It made its recommendations on the basis of its examination of existing PHCs and their operation, training of workers, etc. Highlights of the recommendations of this report were:

1. To begin with one Male Health Worker (multipurpose) should be available for a population of six to seven thousand.
2. At least one Female Health Worker (ANM) should be available for a population of ten to twelve thousand.
3. Each PHC should ultimately serve 50,000 population and should have 16 Sub centres spread over its area.

4. Training for all workers engaged in the field of health, family planning and nutrition should be integrated.

The short-term objective in the Multipurpose Workers Scheme today is the establishment of a health delivery system in rural areas through a male and a female multipurpose worker each for a population of 5,000. The efforts made for training various categories of workers for implementation of this scheme have been described in Chapter 6.

There has been a considerable increase in the number of doctors serving in PHCs. In the early phases, there were many PHCs without doctors (Government of India 1969c : 160). Data are available only for 1979 and are set out in Table 10.1, from which it will be seen that by then there were very few functioning without a doctor and a number of them had two or three.

Apart from the 25-bed hospitals currently envisaged for every four PHCs, this nuclear institution also has the support of services from rural dispensaries offering Western or traditional medicines. In addition, rural populations can avail of hospital facilities of increasing size and ascending levels of sophistication at the taluk/tehsil hospitals, district hospitals, urban general hospitals, teaching hospitals and hospitals providing facilities for super-specialities in medical care in post-graduate medical institutes. As pointed out in Chapters 4 and 5, there has been a strengthening of the supervision of PHCs at the district level and referral services at taluk, district and higher levels. Thus, PHCs have become part of a total network of health services. Since the First Plan, there has been a consistent annual increase in their number and also of sub-centres under them (see Table 5.10). Some 5532 PHCs and 51,184 sub-centres had been established by March 1981.

Information about PHCs is also presented in Tables 5.10, 9.1 and 9.2. Table 10.2 gives the targets and outlays for the rural health programme for the Sixth Plan.

What has been done so far in India in the area of rural health is a very substantial achievement, especially for a developing country, perhaps the only one of this magnitude in the Third World. What makes it particularly significant for other developing countries is the constant review of and additions to the programme for building an efficient rural health care service system.

### **PRIMARY HEALTH CARE IN THE TWENTY-POINT PROGRAMME**

Inclusion of primary health care in the Twenty Point Programme has stimulated a new phase in the growth and development of rural health

TABLE 10.1: Statement Showing Number of Primary Health Centres and their Sub-centres Functioning in the Country as on 31-3-1979.

Sl. No.	Name of the State/U.T.	No. of Blocks	No. of PHCs yet to be established	No. of Primary Health Centres			No. of Centres functioning	
				Functioning total	With two or more Drs.	Without Dr.		
1	2	3	4	5	6	7	8	9
1.	Andhra Pradesh	325	—	420	415	—	5	3115
2.	Assam	130	1	146	100	—	46	469
3.	Bihar	587	12	575	485	8	82	4276
4.	Gujarat	259	—	251	204	3	44	1920
5.	Haryana	87	5	89	78	2	9	834
6.	Himachal Pradesh	69	—	77	45	8	24	846
7.	Jammu & Kashmir	78	6	77	77	—	—	356
8.	Karnataka	268	—	266	210	—	56	2335
9.	Kerala	144	1	163	163	—	—	1788
10.	Madhya Pradesh	459	—	465	422	7	36	4031
11.	Maharashtra	426	24	413	410	—	3	3018
12.	Manipur	26	11	23	7	—	16	55
13.	Meghalaya	24	6	18	10	4	4	64
14.	Nagaland	21	7	14	—	3	11	59
15.	Orissa	314	—	314	205	6	103	2038
16.	Punjab	117	—	129	73	4	52	1034

(contd.)

(contd.)

Table 10.1—(contd.)

1	2	3	4	5	6	7	8	9
17.	Rajasthan	232	—	232	207	—	25	1624
18.	Sikkim	—	—	15	6	2	7	22
19.	Tamil Nadu	374	—	383	275	—	8	2831
20.	Tripura	17	1	27	24	—	3	109
21.	Uttar Pradesh	875	—	875	875	—	—	7000
22.	West Bengal	335	19	316	283	—	33	1972
Union Territories								
23.	A & N Islands	5	1	2	—	—	2	5
24.	Arunachal Pradesh	48	—	78*	6	10	62	—
25.	Chandigarh	1	—	1	1	—	—	5
26.	D & N Haveli	2	—	2	—	—	2	5
27.	Delhi	5	1	8	8	—	—	44
28.	Goa, Daman & Diu	13	—	15	15	—	—	65
29.	Lakshadweep	5	—	7	2	—	5	—
30.	Mizoram	20	9	10	1	1	8	168
31.	Pondicherry	4	—	12	12	—	—	36
INDIA (Total)		5270	103	5423	4719	58	649	40124

Note: \*Health Units are functioning instead of Primary Health Centres.  
Source: GOI, DGHS, Health Statistics of India, 1979.

**TABLE 10.2: Physical Targets and Achievements Under Rural Health Programme During Sixth Plan (1980-85)**

Sl. Programme No.	Norm	Unit	Position on 1-4-1980	Target (Additional) 1980-85
1. Health Guides	1 for every village of a population of 1,000	Lakh	1.40	All villages will be covered
2. Sub-Centres	1:5,000 population in plains and 1:3,000 in tribal and hilly areas	Nos.	50,000	40,000
3. Primary Health Centres	1:30,000	Nos.	5,400 (in addition 1,000 subsidiary centres were also set-up)	600 additional primary health centres plus upgradation of 1,000 dispensaries into subsidiary health centres.
4. Upgraded primary health centres to be converted to community health centres	1:1,00,000 or 1 per C.D. Block	Nos.	340	174

*Source: Sixth Five Year Plan 1980-85, Planning Commission.*

services (Government of India 1983b; Government of India 1984b). This programme envisages : acceleration of health care activities for the scheduled tribes and the scheduled castes; further strengthening of the Multipurpose Workers' Scheme and the Health Guides' Scheme; and, upgradation of the existing Primary Health Centres into Community Health Centres (CHCs) and establishing Primary Health Centres for every 30,000 population, either by adding extra field staff to the already existing rural dispensaries (termed as Subsidiary Health Centres—SHCs), or by opening new PHCs.

Provision of health care and family welfare services for the scheduled tribes and the scheduled castes are being accelerated through formulation of separate Tribal Sub-Plans and Special Component Plans for the scheduled castes (Government of India 1983b : 45). The number of PHCs and sub-centres required and in position in tribal areas in different states and union territories are presented in Table 10.3

### **Sub-centres**

Norms have now been revised to have one Sub-centre with one male and one female MPW for every 5000 rural population in general, with the population further reduced to 3000 for tribal, hilly and backward areas. By 1985, it is proposed to have 40,000 new sub-centres. By April 1983, 18,471 sub-centres had been established; the revised target for 1983-84 being 7,774. By the end of 1982 there were 67,485 MPW(F) (ANMs), against the total requirement of 71,127 and it is anticipated that the deficit has been covered with the outturn of the new batch from the ANM training schools in 1983 (Government of India 1983b : 56-57).

### **Subsidiary Health Centres, New Primary Health Centres and Community Health Centres**

Along with strengthening of the sub-centres, it is proposed to have a virtual 200 per cent increase in the number of PHCs by scaling down the population covered by them to 30,000. In this new pattern, each New PHC will have a medical officer, a Community Health Officer (for public health), a Pharmacist, a Nurse Midwife, an ANM, one laboratory technician and two persons for secretarial work and four other supporting staff. Extra staff are made available to existing dispensaries to convert them into Subsidiary Health Centres (SHCs). Where there is no dispensary, the recommended staff are posted for establishing New PHCs (Government of India 1983b:59).

The main feature of an Upgraded PHC or a Community Health Centre is a 30-bedded hospital. Earlier, the proposal was to convert one out

TABLE 10.3: Number of PHC's and Sub-centres Required and in Position in Tribal Areas as on 31-3-1983.

Sl. No.	Name of the State/ Union Territory	Tribal Population (1971 Census) in lakhs (00,000)	PHC's		Sub Required 3,000 Popula- tion	Centres in Posi- tion
			Required 20,000 Popula- tion	In Position		
1.	Andhra Pradesh	16.6	83	29	553	1919
2.	Assam	19.2	96	32	640	216
3.	Bihar	49.3	247	NA	1644	NA
4.	Gujarat	37.3	186	65	1245	486
5.	Himachal Pradesh	1.4	7	9	74	48
6.	Karnataka	2.3	12	55	77	788
7.	Kerala	2.7	13	5	90	43
8.	Madhya Pradesh	83.9	419	185	2796	2358
9.	Maharashtra	29.5	147	121	985	720
10.	Manipur	3.3	17	NA	111	NA
11.	Meghalaya	8.1	41	26	271	101
12.	Nagaland	4.6	23	18	153	116
13.	Orissa	50.7	253	118	1691	1046
14.	Rajasthan	31.3	156	23	1042	249
15.	Sikkim	0.5	3	2	17	11
16.	Tamil Nadu	3.1	16	16	104	100
17.	Tripura	4.5	23	12	150	57
18.	Uttar Pradesh	2.0	10	NA	66	1420
19.	West Bengal	25.3	127	NA	844	NA
20.	Arunachal Pradesh	3.7	18	45	123	NA
21.	Goa, Daman & Diu	0.08	1	1	3	5
22.	Mizoram	3.3	17	18	111	290
23.	A & N Islands	0.2	1	1	6	—
24.	D & N Haveli	0.6	3	3	21	14
25.	Lakshadweep	0.3	1	7	10	—
TOTAL		385.78	1920	791	12800	9987

Source: GOI, DGHS, Health Statistics of India 1983.

of four of the traditional PHCs into an upgraded PHC by setting up a 25-30 bedded hospital with the needed staff. It has now been suggested that an already existing sub-district (taluk/tehsil/other) hospital be strengthened with additional staff and equipment to serve as an Upgraded PHC or a Community Health Centre. The staffing pattern of an Upgraded PHC/CHC is: four specialists (surgeon, physician, obstetrician and gynaecologist and paediatrician); three general duty medical officers (public health, anaesthesia, and one from an indigenous system of medicine); eight nurses; two pharmacists; two laboratory technicians; one X-ray technician; one extension educator; one ophthalmic assistant; one statistical assistant; sixteen ward staff; ten other supporting staff (Government of India 1983b : 565).

In quantitative terms, progress in establishing SHCs and New PHCs has been quite impressive (Table 10.4). Against the original target of having 100 New PHCs and 1000 SHCs for 1980-85, as many as 473 New PHCs and 3182 SHCs are already reported to be functioning in the country (Government of India 1983b : 58). It is, however, admitted that most of these units have neither been provided the required facilities, nor the necessary equipment and manpower and, as such, are hardly in a position to function effectively (Government of India 1983b : 58).

There is also a very wide variation in the distribution of SHCs, with Punjab claiming to possess 1096 SHCs in April 1980 (presumably before even the programme was finalised for implementation) and to have added yet another 450 within three years.

Similarly, in the case of Community Health Centres/Upgraded PHCs, though 253 units have been established, against a target of 174, a large number of them do not have the inputs necessary to provide the specialised services (Government of India 1983b : 65).

In the case of the MPW Scheme too, after over a decade of its implementation, only 304 out of the 406 districts have been covered by the end of 1983. Retraining of personnel has been completed in 44 other districts, while it is still in progress in another 28. It is yet to be taken up in the remaining 30 districts (Table 10.5).

As it represents a major watershed in health service development in India, the Community Health Workers/Volunteers'/Guides' Scheme is described and analysed in a separate chapter (Chapter 11). The different programmes for control/eradication of communicable diseases and the family welfare programme form major components of the functions of rural health services. These and two other major functions of the rural health services—maternal and child health services and medical care services—have also been considered in separate chapters since these have linkages with many other components of the larger health service system.

**TABLE 10.4: Primary Health Centres, Upgraded PHCs/Community Health Centres, Sub-centres and Subsidiary Health Centres Functioning as on 1-4-1982 & 1-4-1983**

Sl. No.	State/Union Territory	No. of Primary Health Centres functioning as on		No. of upgraded PHCs/Community Health Centres functioning as on		No. of Sub-Centres functioning as on		No. of Subsidiary Centres functioning as on	
		1-4-82	1-4-83	1-4-82	1-4-83	1-4-82	1-4-83	1-4-82	1-4-83
1.	Andhra Pradesh	421	421	25	31	4409	4809	—	40
2.	Assam	146	148	8	9	877	1006	—	16
3.	Bihar	611	611	37	42	6445	6445	—	50
4.	Gujarat	251	271	15	34	2700	3200	—	20
5.	Haryana	89	90	1	1	1040	1040	—	—
6.	Himachal Pradesh	77	88	17	80	725	859	—	9
7.	Jammu & Kashmir	90	90	10	11	398	398	15	52
8.	Karnataka	305	305	39	41	3452	3752	—	—
9.	Kerala	177	180	—	—	1797	1839	—	—
10.	Madhya Pradesh	665	675	26	48	5908	6367	—	50
11.	Maharashtra	454	476	86	86	4041	5041	—	100
12.	Punjab	130	130	—	10	2255	2335	1496	1546
13.	Rajasthan	234	236	20	27	2150	2400	—	25
14.	Tamil Nadu	405	405	—	30	3032	4586	120	264
15.	Tripura	28	28	2	3	131	139	—	1
16.	Uttar Pradesh	927	944	16	23	11192	12842	—	81
17.	West Bengal	335	335	18	21	3099	4216	793	804
ALL INDIA		5151	5851	349	471	57975	65643	2540	3182

Source: GOI, MOHFW, *Annual Report, 1983-84.*

TABLE 10.5: Status of Multipurpose Workers Scheme (Statewise)  
as on 31-12 83

Name of State/UT	Total No. of Distts. in the State	No. of Distts. where trg. is com- plete	No. of Distts. where Scheme is implemented	No. of Distts. where trg. is go- ing on	No. of Distts. where trg. yet to be taken.
1. Andhra Pradesh	23	19	17	4	—
2. Assam	10	5	5	5	—
3. Bihar	31	23	Nil	8	—
4. Gujarat	19	19	19	—	—
5. Haryana	12	12	12	—	—
6. Himachal Pradesh	12	12	12	—	—
7. Jammu & Kashmir	10	2	1	2	6
8. Karnataka	19	19	19	—	—
9. Kerala	12	9	3	3	—
10. Madhya Pradesh	45	44	45	1	—
11. Maharashtra	27	27	27	—	—
12. Manipur	6	5	Nil	1	—
13. Meghalaya	5	5	5	—	—
14. Nagaland	7	Nil	Nil	3	4
15. Orissa	13	13	13	Nil	Nil
16. Punjab	12	12	12	Nil	Nil
17. Rajasthan	27	27	27	Nil	Nil
18. Sikkim	4	4	Nil	Nil	Nil
19. Tamil Nadu	15	5	5	Nil	10
20. Tripura	3	2	1	1	Nil
21. Uttar Pradesh	56	56	56	—	—
22. West Bengal	16	16	16	—	—
23. A & N Islands	2	Nil	Nil	Nil	2
24. Arunachal Pradesh	6	Nil	Nil	Nil	6
25. Chandigarh	1	1	1	—	—
26. D & N Haveli	1	Nil	Nil	Nil	1
27. Delhi	1	Nil	Nil	Nil	1
28. Goa, Daman & Diu.	3	3	Nil	Nil	Nil
29. Lakshadweep	1	1	1	Nil	Nil
30. Mizoram	3	3	3	Nil	Nil
31. Pondicherry.	4	4	4	Nil	Nil
INDIA	406	348	304	28	30

Source: Tenth Joint Conference of the Central Council of Health and Family Welfare, July 9-11, 1984—Agenda Papers (p. 42)

## ANALYSIS AND EVALUATION

The degree of effort a country puts in to make health services available and accessible to its hitherto unserved or underserved population is perhaps by far the most important index for assessing progress in implementation of primary health care. In terms of this index India's achievements are indeed impressive. This is particularly so when it is borne in mind that India is among the poorest countries of the world and faces a number of other problems of equal size and urgency. At the policy level, the decision in 1977 to entrust the people's health in the people's hands through providing training to representatives chosen by the villagers themselves, to provide training to dais, and to utilise the indigenous systems of medicine more extensively and effectively have been major landmarks. There is also a policy commitment to involving the community 'in the identification of their health needs and priorities as well as in the implementation and management of the various health and related programmes' (Government of India 1982a).

Community orientation of health services to ensure social control, intersectoral action for health and restructuring of the conventional health services system to give a back-up support to the first line health institutions form key elements of the policy frame.

Health problems of people are considered as a whole. Health services form but one component of the programmes for dealing with these problems. Furthermore, an integrated approach towards health problems by the health services is adopted, as opposed to the earlier vertical approach. Notwithstanding the strong criticism of rural health services in the following paragraphs, it must be emphasised that the establishment of this network of the institutions is the fruit of the great efforts made over the past fifteen years (1970-85) to increase the outreach of the health services to the underserved and the unserved. Despite its numerous defects, this network is a valuable national asset.

Interplay of the positive and negative forces referred to in Chapter 3 is very conspicuous in health services development for rural populations. There are four major negative factors which have tended to thwart the development of rural health services:

1. The mechanism of decision making adopted for promoting development suffers from a number of infirmities: the decision makers do not have the needed perspective; and inputs from health practices research, which helps in identifying the optimal solution to a complex problem like rural health, are virtually absent.

2. Both state and central governments have been very sluggish in making the needed resources available for setting up the institutions.

3. Even where the institutions have been set up, they work at a very low level of efficiency because of administrative, managerial and political problems.

4. There are alarming regional disparities, with heavily populated states like Uttar Pradesh, Bihar, Madhya Pradesh and Rajasthan lagging far behind other states.

It may be noted that Multipurpose Workers' Scheme was the outcome of the deliberations of a committee. This committee was dominated by generalist administrators who were obviously was not acquainted with all the major issues involved in formulating such a complex scheme. Optimisation of the work load and job specifications for MPWs needed careful analysis of the existing health problems and the programmes and identification of priorities for action. However, instead of adopting such an approach, the committee merely listed the jobs to be performed by MPWs. When it was felt that the population assigned for performing so many functions was too large, it was decided to have an 'intensive zone', covering about 3000 population, leaving the remaining 60-70 per cent of the population in a 'twilight zone'. There were also formidable administrative problems of reconciling pay-scales, services conditions and qualifications of different categories of workers who were to become MPWs. Further, in the course of their training, not only had the MPWs to acquire new knowledge and skills, but they had also to bring about a basic change in their attitude to their work. Reduction of population coverage to 5,000 meant a much greater increase in the training load. That it has taken more than a decade to implement the scheme in 304 out of the 402 districts (Table 10.5), shows how sluggish has been the progress in even posting the MPWs.

The approach to decision making to strengthen PHCs was even more superficial and ambivalent. In 1972 the Union Ministry of Health and Family Planning proposed a 25-bed hospital with specialists in medicine, surgery, and obstetrics and gynaecology, in one out of every four PHCs. This proposal was included in the Fifth Five Year Plan (1974-79). The Sixth Plan redesignated these PHCs with 25-30 beds as Community Health Centres (CHCs) and proposed that a CHC should be set up for every 100,000 population. Although the name Community Health Centres was given to emphasise public health work, the staffing pattern is predominantly curative in character. Further confusion was caused by proposing 'New PHCs' to cover every 30,000 population (20,000 in tribal and hilly areas). The confusion was worse confounded when it was proposed to have, as an alternative to New PHCs, Subsidiary Health Centres for every 30,000 population by strengthening the already existing rural dispensaries.

As if all this was not enough, the Working Group of the Union Ministry of Health and Family Welfare for Health for All by 2000 AD, (Government of India 1981a), asserts that (p. 99).

'The Planning Commission has already accepted in principle to establish additional PHCs from 1983 onwards in a phased manner so as to have one PHC for every 50,000 population [emphasis added].

But notwithstanding this assertion, as pointed out above, in a subsequent document, the Ministry has insisted that new PHCs/SHCs are meant to cover a population of 30,000 (outside tribal and hill areas) (Government of India 1983b : 58). The latest available document (Government of India 1984b) reinforces this contention.

This casual approach to strengthening the PHCs has created a situation where it is difficult even to find out which organisation is responsible for providing the vitally needed support to the rapidly increasing number of sub-centres. The Old PHC is being pulled in two different directions—the newly conceived Community Health Centres threatening to take over the responsibility of overseeing all public health activities within a population of 100,000 (which is to have as many as 20 sub-centres) on the one hand; and the New PHCs and the SHCs which are threatening to divide the Old PHC's population among themselves and take over its supervisory role, on the other. Added to all this is the admission of the Union Ministry of Health and Family Welfare that New PHCs, SHCs and CHCs exist mostly on paper and that the SHCs, for whatever they are worth, are also concentrated only in a few states.

That so enormous a programme of such critical significance is in a state of total disarray shows how defective has been the quality of decision making in developing health services for rural populations. Expectedly, inadequacies in the administration and management are reflected also in the functioning of PHCs. A vivid assessment of this is provided by a committee of the Union Ministry of Health and Family Planning (Government of India 1974a):

Almost all the national programmes have suffered because they have not received adequate attention from the medical officers in charge and his team of para-medical workers. In most of the primary health centres the lady health visitors, the auxiliary nurse midwives and other para-medical workers are not available in the required number. Even when they are available, they are comparatively young and inexperienced and they have failed to win the confidence of the community and their impact on the community is negligible. Because of the failure of lady health visitors and auxiliary nurse midwives,

the untrained dais are preferred by villagers. Ignorance, apathy, fear and lack of confidence among the paramedical staff at large are responsible to a considerable extent for underutilisation of the capacity of these workers.

These observations have been corroborated and supplemented by the findings of the 19-village study (Banerji 1973d), which included study of eleven PHCs in eight states. These findings are being presented below (see also Chapter 9).

## **Response to Medical Care Problems**

### *Demand for Western-style Services*

Taking into account the social and economic status of the people, the epidemiology of health problems and the nature of the health services available, it is not surprising that problems of medical care should be by far the most urgent concern among the health problems in rural populations. But the surprising finding was that the response to the major medical care problems was very much in favour of the Western (allopathic) system of medicine, irrespective of social, economic, occupational and regional considerations. Availability of such services and the capacity of patients to meet the expenses were the two major constraining factors.

### *Image of the PHC Dispensary*

On the whole, the PHC dispensary projected a very unflattering image. Discrimination against the poor and the oppressed, poor quality of medicines (only red water), lack of medicines, overcrowding and long waits, nepotism, bribery, and indifferent and often rude behaviour of the staff, were some of the charges that were levelled against most of the dispensaries. Complaints about medicines and overcrowding and long waits were made even against the best of the PHCs studied.

### *Services from Other Agencies*

Because of the very poor image of the PHC dispensary and its limited capacity, it was unable to satisfy more than a very limited portion of the demand of the villagers for medical care services. The enormous unmet felt need was the main motive force for the rise of a very large number of so-called Registered Medical Practitioners (RMPs) or 'quacks' (see also Chapter 6).

Apart from these agencies, depending on the economic status of the patient and the gravity of the illness, villagers often sought help from government and non-government medical care agencies in the adjoining (or even distant) towns and cities. There are several instances of families having been totally ruined in the process of meeting medical care expenses.

### *Practitioners of Indigenous Systems of Medicine and Homoeopathy and Other Non-Professional Healers*

There are numerous instances of resort to these healing practices. But among those who suffer from major illness, only a very tiny fraction adopt these practices by choice, positively rejecting facilities of the Western system of medicine even when these are easily accessible. Usually, these practices and home remedies are resorted to: (i) side by side with Western medicine; (ii) after Western medicine has failed to give relief; (iii) when Western medical services are not available or accessible; and, (iv) frequently, when the illness is of a minor nature.

## **Maternal and Child Health Services**

### *Demand*

Another significant finding of this study is that there is considerable unmet felt need for the services of the Auxiliary Nurse Midwife (ANM) at the time of childbirth. Villagers are keen to have the ANM's services because they consider her to be more skilled than the traditional dai. Wherever the ANMs have provided services, the dai's role has become less significant. It is significant that even those ANMs who had tarnished their image by openly carrying on extramarital 'affairs' within the villages but who were otherwise competent, continued to command the respect of the villagers (see also Chapter 12).

### *The Image of the ANM/LHV*

The overall image of the ANM/LHV among villagers in north India is that of a person who is quite distant from them—meant only for special people and for those who can pay for her services. She is not for the poor. She can be called only when there are complications, and then too, she must be paid. She is not expected to visit women during pregnancy or after delivery (see also Chapter 12). In the villages in the southern states, the position is only relatively better, though there also the utilisation of

the ANM is much below the optimal level, thus leaving substantial unmet felt needs. Antenatal and post-natal care of mothers, as well as care of children are virtually absent even in villages where PHCs have been functioning for a very long time.

#### *Utilisation of Lady Doctors and Hospital Facilities*

Lady doctors, wherever available, are even more inaccessible than the LHV and ANMs. The villagers actively seek their help or take patients to the city hospital in cases of intractable obstetrical complications. These data once again belie the prevailing notion that the illiterate, superstitious and ignorant villagers do not accept offers of scientific health care services and, instead, go in for primitive health practices.

#### *Deliveries by Dais and Relatives and Neighbours*

The majority of the deliveries, even in the villages where a PHC is located, are conducted by dais, relatives or neighbours. In villages with no PHC, their sway is almost complete. It is noteworthy that they seek help from the ANM, LHV or the Lady Doctor for complications which they were unable to manage. The use of unclean instruments and adoption of crude methods by dais, relatives and neighbours are responsible for the widespread occurrence of neonatal tetanus and other complications. But, unlike those of the ANM and LHV, the services of dais and other local people are provided either free or at a moderate charge; they are easily accessible at any hour; they readily pay repeated visits to the mother during pregnancy, labour and after labour; they perform such chores as massaging the mother, looking after the infant, washing the clothes and disposing of the placenta and other soiled material; and, above all, being a useful integral part of the village social system, they inspire confidence among the villagers and, unlike the ANMs and LHVs, do not humiliate them by curt, even rude, behaviour. As in the case of the RMPs, delivery by relatives, friends or dais is resorted to by villagers not because it is believed to be preferable to delivery by an ANM, but because the services of ANMs/LHVs/Lady Doctors are not easily available or accessible.

#### **Malaria and Smallpox Work**

These are the two programmes which could be said to have achieved some success in reaching the grass-roots. Despite several complaints regarding the sincerity of malaria and smallpox workers, there was almost universal agreement among the villagers that these workers did visit the community, that they reached people in their homes. It is, how-

ever, interesting to note that, frequently, the villagers do not associate them with the PHC.

Except when there were understandable compulsions, such as the prospect of a poverty-stricken mother losing wages for 4-5 days at the peak agricultural season due to the child's vaccination reactions and some cases of orthodoxy, there was general acceptance of smallpox vaccination in village communities. The fact that India could effectively eradicate smallpox as a part of the WHO's Global Programme demonstrates clearly that it was shortcomings in the fields of administration and management which had been responsible for the failure of earlier efforts to eradicate the disease. These problems were overcome when the WHO came forward to offer subsidies, subject to India's acceptance of the Global Strategy. In retrospect, the belief in Sitala Mata, which was used so frequently to explain away the earlier failures, appears, now to have been exaggerated out of all proportion. Did the administrators employ social scientists to invoke the name of Sitala Mata to cover their own failures to organise a good smallpox vaccination programme? In any case, the goddess came into the picture more *after* a person got the disease and the connected rituals were not without value since they included isolation of the victims.

The number of children who were left unvaccinated due to lapses of the parents appeared to be a very small fraction of those who remained unvaccinated due to the lapses of the vaccinators and their supervisors. During the outbreak of smallpox in a village where the study was going on, the organisation was seen to react very sluggishly, both in terms of getting information and in terms of taking preventive measures. Also, finding little to choose between treatment of smallpox cases by Western methods and depending on the goddess Sitala for survival, the villagers adopted a mixture of both these practices.

### **Other National Communicable Diseases Programmes**

Patients suffering from tuberculosis, leprosy and trachoma got very little benefit from the corresponding national programme. They were forced to seek help from elsewhere. Such help was not only expensive and bothersome, but it was also not efficacious, both clinically and epidemiologically.

### **Environmental Sanitation**

In the eyes of the villagers, the Sanitary Inspector of the PHC is seldom associated with immunisation programmes, cleaning and disinfection of wells and ponds, garbage disposal, promotion of sanitary latrines, etc. 'Inspection' of village food and milk vendors, premises seemed to the villagers to be his main preoccupation in the field of environmental

sanitation. Although by far the great majority of the villagers still go to the fields for defecation, significantly, impelled by sheer felt needs, a number of them have incurred considerable expenditure to get latrines of various types installed in their homes. They got little help from the PHCs. This is another instance of a health institution falling behind even an already existing felt need, this time, for preventive services (see also Chapters 15 and 25).

### **Other Community Health Activities**

There has been no sustained effort to deal with such diseases as cholera, diphtheria, and guineaworm and hookworm infestations, as public health problems. When, however, epidemics of cholera and diphtheria strike, the PHC and the district health authorities encounter little difficulty in getting community participation in anti-epidemic measures. There are instances of villagers, on their own, seeking triple antigen immunisation from the PHC. Very often, even such demand is not met.

Registration of births and deaths is very incomplete. School health services and nutrition services are virtually non-existent.

It may be noted that the eleven PHCs studied were better performing ones, deliberately chosen, all having their own buildings and full or almost full complement of sanctioned staff. The study of rural health and family planning institutions in the five districts of the Allahabad Division by Mishra and his colleagues, referred to in Chapter 9, presents an even bleaker picture. These findings, as well as findings from three PHCs of Uttar Pradesh and Rajasthan from the 19-village study, once again underline the urgent need to strengthen the organisation and management of rural health and family planning services in Uttar Pradesh, Bihar, Madhya Pradesh and Rajasthan.

## COMMUNITY HEALTH WORKERS (GUIDES) SCHEME

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IN 1977, the Union Government initiated a new programme based on village-level community health workers (Government of India 1978a). The idea was to by-pass the medical establishment and go directly to the people. This represented a basic shift in the approach to development of health services. In this sense it was a landmark.

In providing the background of this programme, the Ministry of Health and Family Welfare had stated (Government of India 1977a) :

No conscious and adequate efforts have so far been made to involve the community in taking care of itself and seeking assistance when such assistance is needed. As a result, the community has tended to become servile and it has to depend on assistance when such assistance was provided. The community should become conscious of what it can do itself and when to call for assistance. . . .that improvement cannot be brought about merely by increasing the number of doctors or the output of medicine but by making each individual realise the need for simple steps in sanitation, prevention, promotion, etc. of health activities, some of which make remarkable changes in morbidity and mortality pattern in our country.

Seven hundred and seventy-seven out of some 5400 administrative blocks covering the rural population were chosen for the first phase of implementation of this scheme. A Community Health Worker (CHW, later known as Community Health Volunteer—CHV) was chosen by and from the community and provided with the wherewithal for handling minor ailments, thus serving as a link between the PHC and the community and providing the much-needed health education to the village popu-

lation. The responsibility for getting the best out of the CHW lay with the community itself—with a promise of full support from the government.

## SELECTION AND TRAINING

According to the guidelines of the Union Ministry of Health and Family Welfare (Government of India 1982f), CHWs may be of either sex, should be permanently resident in the area they serve, be able to read and write fluently, be social service minded, preferably be below 30 years old and physically active, be able to spare, whatever their occupation, 2-3 hours daily, and serve for at least three years, and be acceptable to all sections of the community. Following these guidelines, the village community (council) nominates a panel of 2 or 3 persons among whom a selection is made by the 'Two Medical Officers (of the PHC) jointly, after consulting the Block Development Officer and the field staff of various government organisations (Village Level Worker, Basic Health Worker, Family Planning Health Assistant, Auxiliary Nurse Midwife, etc.) working in the village' (Government of India 1982f).

The training of the CHW is of 200 hours duration, spread over 10-12 weeks. Seventeen items and 7 sub-items, covering malaria, smallpox, communicable diseases, environmental sanitation and personal hygiene, immunisation, family planning, maternal and child care, nutrition, vital events, first aid in emergencies, treatment of minor ailments, and mental health, learning to treat common ailments by using ayurvedic, unani, siddha or homoeopathic medicine and practice of yoga is a part of the training course (Government of India 1977b).

The training team consists of the Medical Officers, Sanitary Inspector, Block Extension Educator, Malaria Inspectors, Health Inspectors and Lady Health Visitors (Public Health Nurses) of a Primary Health Centre (National Institute of Health and Family Welfare 1978b; Government of India 1982f).

The trainees are given a stipend of Rs. 200 per month, a simple medicine kit and a copy of a manual printed in the local language with simple diagrams. Thereafter, they are given an allowance of Rs. 600 and Rs. 600 worth of medicines per annum.

The scheme includes the provision of an additional Medical Officer (preferably a practitioner of one of the indigenous systems of medicine) for each PHC to train the CHWs, training of at least one indigenous minwife in each of some 560,000 villages, and a virtual doubling of the full-time field staff of the PHC. Training of CHVs has been discussed in Chapter 6.

## RESTRUCTURING OF THE SCHEME IN 1981

In 1981, the Scheme was restructured and revised to a considerable extent and came to be known as the Health Guides Scheme (Bose et al 1982). Greater emphasis is now being laid on community involvement, with provision for setting up of Village Health Committees which would take an active part in the implementation of the health and family welfare and maternal and child health programmes. Preference is being given to women as Health Guides. By September 1983, 2,51,030 Health Guides had been trained covering 4234 PHCs in the country. It was proposed to cover the whole country (except Bihar) by March 1984 (Government of India 1984a : 195).

### Sixth Plan Proposals

The Sixth Plan objectives in the field of primary health care are set out below (Government of India 1981b : 368-69) :

1. A rural health care system based on a combination of preventive, promotive and curative health care services will be built up starting from the village as the base.
2. The infrastructure for rural health care will consist of primary health centres, each serving a population of 50,000.\* These norms would be relaxed in hilly and tribal areas. The village or a population of 1000 would form the base unit where there will be a trained health volunteer chosen by the community.
3. Facilities for treatment in basic specialities will be provided at community health centres at the block level for a population of 100,000 with a 30-bedded hospital attached and a system of referral cases from the community health centre to the district hospital/medical college hospitals will be introduced.
4. Various programmes under education, water supply and sanitation, control of communicable diseases, family planning, maternal and child health care, nutrition and school health implemented by different departments/agencies will be properly coordinated for optimal results.
5. Adequate medical and para-medical manpower will be trained and given suitable orientation towards rural health care.
6. The people will be involved in tackling their health problems and community participation in the health programmes will be encouraged. They will eventually be entitled to supervise and manage their own health programmes.

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\*As pointed out in Chapter 10, other Government of India documents give the figure of 30,000.

7. For achieving these objectives, the Minimum Needs Programme in the state sector would be the main instrument and will be strengthened.

### **ISSUES IN IMPLEMENTATION OF THE HEALTH GUIDES SCHEME**

There is danger that, in view of the far reaching changes this new approach to health care involves, that action to give a concrete form to the basic concepts may get lost in an excessive preoccupation with propaganda efforts. Indeed, danger signals can already be seen quite clearly.

By far the most important element of the concept of primary health care is the adoption of a democratic approach to health service development, as opposed to the earlier approach which was paternalistic, if not downright autocratic and condescending, promoting dependence. The Statement on National Health Policy has rightly diagnosed it as a gap between the cultures of service providers and service receivers. Obviously, the process of democratisation depends on the nature of social relations. From this point of view, obviously, much ground has yet to be covered before a reasonable degree of social justice for all is assured in the country. Data from our long-term study of nineteen villages indicate that, while there is still a long way to go in bringing about basic changes in the society, even in far-flung villages movements to assert democratic rights by the deprived are gradually intensifying (Banerji 1982a : 208-12). The key question then is : have the promoters of primary health care in India provided any evidence to show that they have taken active political and administrative measures to openly side with the deprived and to strengthen forces of democratisation, which is essential for placing the 'people's health in people's hands'?

As will be shown later, the answer, unfortunately, is not a very positive one. Inadequacies on this account will transform a programme of such a great promise into just another routine bureaucratic exercise. One is not likely to find a very encouraging answer to the question: how far have the people, particularly the deprived people, been involved in the choice of the CHVs? It is, therefore, necessary for promoters of primary health care to actively create conditions which stimulate the process of democratic participation in it by the community. The concept also envisages that the community will take active steps to demand, from the various health institutions, the services that are legitimately due to them.

Again, apart from the above considerations, with a given level of democratisation, promoters of primary health care are required to identify technologies and the corresponding resources with which CHV should be

equipped. Formation of a suitable curriculum, training of the trainers, taking on the enormous task of meeting the logistic requirements for training thousands of CHVs, undertaking the equally enormous task of training of dais, and bringing about a basic reorientation of the existing health service system, so that it is in a position to provide the needed back-up support to the CHVs, are some of the other steps that ought to have been taken to give a concrete shape to the concept.

That there have been a number of major short-comings in the implementation of the programme became manifest when it came to the verge of collapse when the Union Government wanted the state governments to meet half of the cost of the Scheme from the lump-sums granted by the Union Government to the states (at the instance of the states themselves) for the Revised Minimum Needs Programme of the Fifth Plan (Bose et al 1983). Such basic shortcomings have also been observed in the course of several evaluations of the scheme.

These deficiencies did not receive the attention they deserved from the Planning Commission. Ignoring them, the Sixth Plan envisaged that there would be one CHV for every 1000 of population or village by 1990 : the target for the Sixth Plan is to increase the number of CHVs from 140,000 in 1980 to 360,000 in 1985 (Government of India 1981b : 224).

## **ANALYSIS AND EVALUATION**

It is possible to single out three basic conceptual issues which have adversely affected the implementation of the programme (Banerji 1978d).

The first concerns the social structure of an Indian village. Experience with the Community Development Programme and other rural programmes have repeatedly brought out the fact that the upper strata of the rural society, which have a firm control over the means of production and distribution, usurp most of the resources for development for themselves and allow very little to trickle down to the weaker sections, where the need is most desperate (Bhattacharya 1970; Banerji 1982a : 54-70). Against this social background, it is unrealistic to assume that the community will participate in the selection of its own CHV. The rich farmers will have a CHV and they will tend to corner for themselves most of the benefits of the scheme. These forecasts have been substantiated by evaluation studies of the working of the CHV scheme (see, Dandekar and Bhate 1978, Bose 1978, National Institute of Health and Family Welfare 1978a, National Institute of Health and Family Welfare 1979, Ghoshal and Bhandari 1979), (Qadeer 1985).

The second issue concerns the suitability of the CHV training

programme. This training is to be provided by field level workers who, according to the Ministry of Health's own admission (Government of India 1974a), have so conspicuously failed to deliver the goods in the past three decades. The fact that such a group of people are also expected to provide training and support in the promotion of indigenous systems of medicine, yoga, naturopathy, and homoeopathy, shows that the organisers have made many simplistic assumptions in conceptualising the programme.

And finally, the organisers have been equally unrealistic in assuming that their programme of 'people's health in people's hands' can succeed while the superstructure continues to be highly medicalised, professionalised, bureaucratised and mystified, to use the terminology of Illich. Such a programme cannot survive in a milieu in which the political leadership actively depends on highly professionalised people working in sophisticated hospitals (Bose et al 1983). Leaders' exhortations for promotion of indigenous systems of medicine, naturopathy and urine therapy do not carry conviction when they themselves rush to seek aid from the top men in the medical profession at the slightest provocation. As long as this double standard—one standard for the 'classes', and another for the 'masses'—continues to govern the minds of the leadership, it will be unrealistic to expect them to usher in a just social order in the field of health.

Apart from these three basic weaknesses in the conceptualisation of the programme, the idea has also not got reflected in its actual implementation. Rather, the implementation of the programme reflects that the people's health is in the hands of some ill-motivated, ill-prepared, ill-trained and not so competent and ineffective minor bureaucratic functionaries of the medical establishment who are supposed to 'teach' the CHVs how they should 'teach' the community (Bose et al 1983).

Government functionaries have a major say in the vital field of selection of the CHVs (Government of India 1982f). This is the very antithesis of what was intended. The programme was intended to move away from the domination of the medical establishment, with all its bureaucratisation, professionalisation and mystification and to ensure that the medical establishment is subordinated to the people to help them handle their health problems in their own way. Promotion of democratisation of health services is the very essence of this new programme and this has often got almost totally lost in the course of its implementation.

Because of this domination by government functionaries of the medical establishment, the original intention of giving a rightful place to the indigenous systems of medicine, yoga, naturopathy and homoeopathy, has also got distorted. The training in these areas is left either to the field workers who do not have the vaguest idea of this area or to some practitioners in one of these systems, who happen to be around, who are

picked up and asked to teach these CHVs. This obviously casual approach to this vital element of the new scheme indicates that the government is not serious in promoting these areas of health care. Direct observations of the training of CHVs in Gurgaon District (Dutta 1980 : 243-47) bear out these contentions.

Expecting some 'raw' trainees, with different backgrounds, to acquire training in 17 different items and 7 sub-items through a predominantly didactic pedagogic approach, spread over 200 and odd hours, provides yet another instance of a patently simplistic approach to a highly complicated problem. This problem is so challenging that its solution requires most meticulous attention from an interdisciplinary team of the most insightful of health workers of the country. It is significant that the technical leadership for a revolutionary programme of such a complexity was entrusted to persons who had very limited background in the field of rural health or even of conventional public health. They certainly were not in a position to provide the quality of managerial input needed to bring together ideas from such fields as public administration, epidemiology, social sciences, health economics and public health sciences to formulate and implement a programme which ensured that people's health is in people's hands. Failure to provide the needed leadership has had serious consequences (Bose 1978; Bose et al 1983).

## MATERNAL AND CHILD HEALTH SERVICES

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### ECOLOGY

THE extensive prevalence of poverty in India among both rural and urban populations is well known. As has been seen in Chapters 2 and 8, in many states the morbidity and mortality rates among mothers and children are shockingly high. These are particularly so among the poor in rural areas, who form the majority of the population. The long-term anthropological study of nineteen villages (Banerji 1982a) referred to earlier, has provided what may be called a close-up of this brutal struggle for existence. It has also documented the profound cultural, social, economic and political implications of such chronic deprivation (Banerji 1982a : 71-82).

The study also gives some insight into the life cycle of the poor in rural India. The struggle begins within the womb itself, when the child suffers the consequences of malnutrition in the mother. Birth exposes it to additional hazards: inadequately attended delivery, diarrhoeas and bronchopneumonias of infancy, and soon after infancy, weanling diarrhoeas. Then come the lifelong hazards of communicable diseases—diarrhoeas and dysenteries, enteric fevers, tuberculosis, leprosy, trachoma, filariasis, tetanus, diphtheria, whooping cough, measles, worm infestations, and so on. The child has also to face a host of other ecology related disorders. If lucky enough to survive these onslaughts, it grows to adulthood and struggles through the rest of its badly battered life in the same way as its parents did, producing its own brood to continue the cycle of life.

As poverty is, to a considerable extent, a political issue, the state of health of mothers and children is dependent to a considerable extent on actions in political fields which can lead to improvement in the

ecological setting. Thus, specific programmes offered by health organisations to improve the health of mothers and children will have only limited impact if there is no concurrent improvement, through determined political action, in the ecological setting in which they live.

The state of health of mothers and children, and indeed their entire life cycle, must therefore be viewed against the background of this forbidding ecological setting. In the first place, sheer hunger and grossly insanitary environmental conditions pose a major threat to the health of mothers and children. This is compounded by the fact that the additional load of pregnancy, childbirth and childrearing make the mothers even more vulnerable to ill-health and death than males of the corresponding age groups. Children are similarly vulnerable because in their early years they just do not have enough strength to cope with the hostile ecological conditions.

Further, in the grim struggle for existence, it is the breadwinner who must be preserved. So, when lives have to be sacrificed, women and children are more expendable than adult men. Indeed, if food is short, the mother herself sees to it that, after the breadwinner, the son, who is a prospective breadwinner, gets a larger share than the daughter, and she herself takes the smallest share. Reference has already been made in Chapter 8 to the higher rates of infant and child mortality among girls, in both rural and urban populations, and the fact that the degree of this difference is very much greater in rural populations which suffer much more from deprivations of various kinds. This suggests that the social and cultural phenomenon of seemingly deliberate neglect of female children (see, for instance, Sen and Sengupta 1983) has deep roots in the grossly unfavourable ecological setting. Undoubtedly, as elsewhere, there is also the important factor of exploitation of women by men.

Health problems of mothers and children have therefore to be considered in the wider ecological context. Their state of health is an important index of the quality of life of a population.

### **SOME BASIC CONSIDERATIONS**

Both the Sokhey Committee and the Bhore Committee (see Chapter 2) underlined the enormous dimensions of the health problems of mothers and children in India. The Sokhey Committee Report contains a graphic account of the problem by Lakshmibai Rajwade (see Chapter 2). Both these committees urged a very high priority for maternal and child health services in the development of health services in India.

Employment in PHCs of Auxilliary Nurse Midwives (ANMs) to provide MCH services to rural populations and employment of Lady

Health Visitors (LHVs) to provide supervisory support to the ANMs were among the earliest efforts to deprofessionalise India's health programmes. The ANM was visualised as a women health worker who has a level of training that would enable her to provide maternal and child health services to rural populations. The LHV is also given the limited training required to enable her to perform her supervisory and service functions.

Unfortunately, the task of providing health services to mothers and children became complicated when, as a component of the services provided by primary health centres, the MCH services got intermingled with programmes of family planning, nutrition, control of diarrhoeal diseases and prevention of blindness. In all these instances the MCH programme was used as a convenient vehicle for pushing forward other programmes.

Taking into account the considerations discussed above, it becomes necessary to consider a complex of factors for developing a health programme for mothers and children. These are outlined below :

(1) As, biologically, mothers and children form the most vulnerable group of a given population they are also very susceptible to adverse environmental conditions. Extensive poverty and a grossly unfavourable environment with very poor sanitation, water supply and housing pose major threats to the health of mothers and children. Often, a mother has to go out to work in the fields within a few days after a childbirth to contribute to the very meagre family resources, leaving the child at home under the care of the five year old sister. Obviously, such conditions have a profound effect on the health of the mothers and children. Bringing about improvement in the living conditions of the people thus becomes a basic issue for improving the health of mothers and children. Maternal and child health services, which are not accompanied by improvement in the environmental conditions, will have only a limited impact.

(2) Every community, anywhere in the world, has its own pregnancy, childbirth and childrearing practices. Evolved over the ages, they are, therefore, quite deep-seated elements in the culture of the community. It may be pointed out straight away that such cultural norms are neither necessarily undesirable, nor sacrosanct. The approach to such cultural phenomena should be a flexible one.

(3) Maternal and child health services which are sought to be introduced into a community should therefore be considered as a purposive intervention from outside in a pre-existing culture which has its own deep-seated norms. It thus become essential to take into account the pre-existing cultural practices and to ensure that the intervention that is sought to be made is superior, not only in terms of its scientific efficacy,

but also in terms of its perception within the culture of the community as a superior alternative to the traditional practices. Introduction of maternal and child health services thus initiates a competition between two sets of practices. It will certainly be incorrect to presume that all aspects of the pre-existing practices to be bad and that the community must accept what is given to them from outside because that is 'good'. Further, it should be noted that what is introduced from outside does not always substitute all the services that were earlier received by mothers and children through the earlier practices, e.g. continued care of the mother and child, disposal of placenta and soiled clothing, and washing and cleaning of the household.

(4) It is sometimes taken for granted that the Auxiliary Nurse Midwife has the capacity to offer alternative practices related to pregnancy, childbirth and child-rearing which are superior to the pre-existing ones. This assumption does not take into account (a) the age of the ANM; (b) her training; (c) her motivation; (d) her ability to get accepted by the community; and (e) her skill in the context of the actual conditions that prevail in the community. The ANM getting certain minimum conditions of living in her place of work, e.g. housing, security and transport, is yet another important consideration.

(5) Because of the very high priority given to population control, provision of maternal and child health services has often been considerably influenced by the programme for population control. This influence has both positive and negative elements. The positive elements are in the form of extra inputs and the extra-high priority that is given to MCH programmes as an integral component of the family planning programme. On the negative side, there is the danger of the MCH work getting neglected because of high priority given to the family planning programme.

(6) Apart from the family planning programme, there have been other specialised programmes which also have components which belong to the MCH services. The Integrated Child Development Scheme, the National Programme for Control of Blindness, the Expanded Programme on Immunisation and the Programme for Control of Diarrhoeal Diseases are the major special programmes which have important elements of maternal and child health services built into them.

(7) Quite apart from the negative and positive influences of a family planning programme on MCH services, promotion of a small family norm can make a significant positive contribution to improvement of health of mothers and children. It must also be noted that access to family planning methods makes an important contribution to improving the status of women: it offers them a means to decide the number of children they should have.

(8) The key role of the ANM in promoting maternal and child

health on a nationwide basis also raises the question of status of women in Indian society, particularly in rural societies. One of the important considerations which contribute to the success of the work of an ANM is the degree to which she is accepted and supported by the community, so that she is able to perform her work effectively. A much wider factor, which also has influence on the work of the ANM, is the status that is accorded to woman workers at large. MCH work is thus also linked with improvement of the status of women in Indian society.

## DEVELOPMENT OF SERVICES

### Through Primary Health Centres

When primary health centres were first established in India in 1952, maternal and child health services were almost the only ones among their activities which reached out to the population at large. At that time, apart from having one ANM at the headquarters of the PHC, three ANMs were posted at the three sub-centres, each covering a population of about 20,000. Even if the fourth ANM at headquarters is taken into account, the ratio is no better than one ANM for 15,000 population. The PHC also had a Public Health Nurse or a Lady Health Visitor to supervise the ANMs. The only other field activity of the PHC was that of a solitary Sanitary Inspector, who was supposed to take care of all public health activities within the population of 60,000 assigned to the PHC. Despite the high priority assigned to MCH activities, even in a purely quantitative sense, the staff available was grossly inadequate when seen in terms of the ANM's work-load (that is, attending to over 800 births in 40 villages each year).

The inadequacies of the staff engaged in providing MCH services become apparent when the MCH staff of the PHCs are compared with those envisaged as a *short-term* measure by the Bhore Committee, viz. a PHC serving a population of 20,000 to have one woman doctor, four public health nurses, four midwives and four trained dais, with two out of the four beds specially earmarked for maternity cases at the PHC headquarters. Every four such PHCs were to have a 30-bedded hospital having a special medical officer for maternal and child health work (see Chapter 2).

### MCH and Family Planning

It is but logical, and indeed it was so visualised originally, that in extending the family planning programme, family planning work should become

part of MCH work. *But in actual practice it turned out that MCH work became a part of family planning work* (Banerji 1974). This has had serious consequences for MCH activities in rural areas. As the pressure to intensify family planning work increased, the MCH work of ANMs was increasingly neglected. The first UN Advisory Mission of 1966 went so far as to insist that the ANMs should be 'relieved from other responsibilities such as maternal and child health and nutrition' so as to concentrate efforts on family planning (United Nations Advisory Mission 1966 : 51) :

The Directorate [of family planning] should be relieved from the other responsibilities such as maternal and child health and nutrition. It is undoubtedly important for family planning to be integrated with maternal and child health in the field, particularly in view of the loop programme, but until the family planning campaign has picked up momentum and made real progress in the states, the Director-General concerned should be responsible for family planning only. *This recommendation is reinforced by the fear that the programme may be otherwise used in some states to expand the much needed and neglected maternal and child welfare services* [emphasis added].

This was translated into a reality in the following years when ANMs were forced to fulfil family planning targets, failing which they were threatened with penalties which included withholding of salary, increments and other benefits, even dismissal from service (Banerji 1971 : 17). While there were targets for family planning work, there were none for maternal and child health work. It was natural then for the ANMs to function in a lopsided manner, favouring family planning. A belated attempt was made to correct this anomaly in the mid-seventies by allocating MCH targets also for ANMs. However, there were no penalties for not reaching the target.

The obviously subordinate relationship of MCH work to the drive to get acceptors for various contraceptives brought into sharp focus certain contradictions that are often seen in development programmes in India. Considering the urgency of the problem to be tackled and its vast dimensions, MCH work had always been considered by government as an activity commanding the highest priority. However, when faced with the problem of runaway population growth, MCH work was sacrificed in an effort (which turned out to be futile) somehow to get 'cases' for family planning. That a UN mission made a categorical recommendation in 1966 that MCH activities should be sacrificed so that resources and personnel are freed to promote birth control gives an idea of the intensity of the pressure that was brought to bear on the Government of India by foreign agencies in this matter (Banerji 1973c).

MCH work was later sought to be strengthened by inclusion of a number of preventive services for mothers and children in the programme. These included immunisation of mothers against tetanus, administration of triple antigen to pre-school children and administration of diphtheria and tetanus vaccine to school children, treatment of nutritional anemia among mothers and children, and administration of vitamin A to children as prophylaxis against nutritional blindness. Table 12.1 gives the details of

**TABLE 12.1 : Year-wise Increase in MCH Beneficiaries—TT, DPT, DT, Vit. A, Mother and Child Nutritional Supplements—All Inclusive, All India 1975 to 1982**

(Figures in millions)

Year	MCH Beneficiaries		
	Women	Children	Total
1975-76	5.15	11.69	16.84
1976-77	5.43	16.79	22.22
1977-78	11.89	31.53	43.42
1978-79	13.76	37.04	50.80
1979-80+	16.19	45.75	61.94
1980-81+	16.37	47.01	63.38
1981-82+	19.15	56.47	75.62
1982-83*+	22.20	58.31	80.51

\*Figures Provisional

+Includes Polio and Typhoid.

Source : GOI, Dept. of FW, MOHFW, *Year Book*, 1982-83.

the performance of MCH work in terms of immunisation and nutrition work. It may be observed that, when considered in terms of the estimated over 23 million births taking place annually in India, even presuming the returns to be correct, and that the beneficiaries have in fact received the services, the achievements have been very modest (see also Table 12.2 and p. 293).

### The Multipurpose Workers' Scheme

Launching of the Multipurpose Workers' Scheme in 1974 is yet another milestone in the field of maternal and child health work in India. A male and a female multipurpose worker are expected to work as a team at the sub-centre level. The female MPW is expected to take care of family

**TABLE 12.2 : Immunisation Status of Mothers and Children in India, 1980-81**

<i>Index</i>	<i>Present level (%age coverage)</i>
1. Immunisation Status:	
TT (for pregnant women)	20
TT (for school going children)	
10 years	—
16 years	—
DPT (Infants)	25
Polio (Infants)	5
BCG (Infants)	65
DT (New entrants of school 5-6 years)	20
Anti-Typhoid (New entrants of school 5-6 years)	2
2. Vitamin A Prophylaxis	25
3. Nutritional supplement	
(a) Expectant mother (iron & folic acid)	25-30*
(b) Children upto 12 years	10

DT—Diphtheria, Tetanus; TT—Tetanus Toriod; DPT—Diphtheria, Pertussis, Tetanus.

\*1978-79.

Source: MOHFW, GOI, *Health for All by 2000 AD, 1981*.

planning and MCH work among a population of about 10,000. As the MCH work load for such a large population was considered to be too heavy, the work territory of the female multipurpose worker was divided into an area of intensive work which covered a population of about 3000 and an area of less intensive work (also termed a 'twilight zone') to cover the rest of the population (Government of India 1973a). As pointed out in Chapter 10, even by 1983 it had not been possible to fully implement the MPW Scheme (see Table 10.5 in Chapter 10).

### **India Population Projects and Other Area Projects**

A number of other health programmes have been undertaken which have had relevance for MCH work. One such was the India Population Project-I, covering the years 1976-80, which covered some urban and rural areas in the states of Karnataka and Uttar Pradesh. The purpose of the Project was to find out how decrease in infant mortality brought about through intensive MCH and nutrition work with the deployment of one ANM for a population of 5000 could bring about greater acceptance

of the family planning programme. The IPP-I was carried forward as IPP-II and IPP-III and four other Area Projects (referred to in Chapter 8) which now cover 63 districts in 14 states (Government of India 1984c).

### **Integrated Child Development Scheme**

Another major effort, which has implications for maternal and child health is the Integrated Child Development Scheme (ICDS), which is described in greater detail in Chapter 17. This Scheme also envisages coverage of every 5000 population by an ANM to ensure more intensive MCH work, deployment of an additional physician at the PHC to provide pediatric services, suitable strengthening of the supervisory echelon for ANMs, a supplementary nutrition programme for pre-school children, non-formal education for mothers and children, etc. The Sixth Plan envisages coverage of as many as 1000 out of a total of 5300 blocks with this scheme (Government of India 1981b : 379-80).

### **Oral Rehydration for Diarrhoeal Diseases**

Extensive use of oral rehydration to deal with diarrhoeal diseases in rural areas with particular reference to diarrhoeas among children (see Chapter 7) is yet another programme having relevance to MCH work.

### **Community Health Guides Programme**

Having a Community Health Guide chosen from amongst every 1000 rural population (see Chapter 11) will also strengthen MCH as well as the proposed training of a dai for each village. It may, however, be pointed out that a programme for training of indigenous dais had been in operation for about three decades with little result. But it is only recently that a concrete programme has been drawn up to train dais on an extensive scale.

## **THE NATIONAL POLICY FOR CHILDREN**

Starting with the posting of ANMs in the first PHCs established in 1952, a number of efforts have been made to deal with the health problems of mothers and children on a priority basis, but much more remains to be done. Appreciating the need for further major effort, so organised and managed that it tackled the formidable ecological conditions prevailing in the country at their very roots, in August 1974 the Government of India adopted a National Policy Resolution for Children which addressed itself

to this effort (Government of India 1979b). The resolution spells out the various measures to be adopted and the priorities to be assigned in carrying forward programmes related to children. In accordance with the resolution, a National Children's Board was set up in December 1974 with the Prime Minister as President. Similar Boards have been constituted in all states and union territories.

The policy calls on the state to provide adequate services to children, both before and after birth and through the period of growth, to ensure their full physical, mental and social development. It contends that the state shall progressively increase the scope of such services so that, within a reasonable time, all the children in the country enjoy optimum conditions for their balanced growth. It has spelled out fifteen specific measures for attaining these objectives. These include comprehensive health and nutrition programmes for children and mothers; free and compulsory education up to the age of 14; physical education; several programmes for the disadvantaged and the physically and the socially handicapped; protection against hazardous occupations; priority for children at times of distress and natural calamities; and encouragement of gifted children.

In formulating programmes in different sectors the resolution spelled out the following priorities:

- (a) preventive and promotive aspects of child health;
- (b) nutrition for infants and children in the pre-school age along with nutrition for nursing and expectant mothers;
- (c) maintenance, education and training of orphan and destitute children;
- (d) creches and other facilities for children of working or ailing mothers; and
- (e) care, education, training and rehabilitation of handicapped children.

## PERFORMANCE

An observation made in the course of the 19-village study offers significant insights into the work being done by ANMs in PHCs. The investigator recorded the following conversation between a group of Harijan mothers in the village of Kachona in central UP, where a PHC has been in operation for over 10 years (Banerji 1982a : 67-68):

*Investigator* : Whom do you call when you give birth?

*Respondents* : Why, we call the dai.

*Investigator* : Don't you have visits from women workers to help you in pregnancy, childbirth and child-rearing?

*Respondents* : No, nobody visits us.

*Investigator* : Nobody from the Prathamik Swasthya Kendra (Primary Health Centre)?

*Respondents* : What is that?

*Investigator* : The persons who work in that building across the road.

*Respondents* : Oh, you mean the hospital! No, nobody makes any visits to us from that hospital.

*Investigator* : Doesn't any lady health worker from that 'hospital' visit you? Some nurse?

*Respondents* : Oh, you mean the *Mem*. How can she visit us? We are poor. We cannot pay her fees. She visits the rich people and spends considerable time in their houses. We pay her fees and call her only when the dai is unable to manage the case. And, when even the *Mem* fails, and if we can find the money, we take the case to the lady doctor in Hardoi or in Lucknow.

Despite its functioning for over ten years, this PHC is still looked upon as a hospital; its village level functionary—the lowest level—the Auxiliary Nurse Midwife, is perceived as a *Mem Saab*; this *Mem* (quite illegally) charges money for her services; she ignores the poorer sections and pays special attention to the key persons among the ruling classes; and despite the enormous cultural gap between even the lowly placed ANM of the government agency and the poor people, when the need is acute, they actively seek her out and pay for her assistance; and when the need is even more desperate and if they can get the money, they actively seek out a lady doctor in the city.

The upper classes, particularly those who occupy key positions in the village, specially attract the ANMs for a variety of reasons. In these households the ANM gets a reward for her services; she gets 'good' company; she gets much better conditions to work in; and, perhaps, through influential people in the village, she is able to create a good impression on her supervisors—Lady Health Visitors, PHC doctors and district officials—who will come to these key persons not only to enjoy their hospitality but also to find out from them as 'village leaders' what the 'village community' feels about the work of the ANMs and other health workers.

Seen against the present day ecological background in which improvement has come very slowly, if at all, and the population covered and the quality of work of ANMs, it is not surprising to find that the health of mothers and children has hardly improved in spite of three and a half decades of maternal and child health work in India. Indeed, according to an assessment made by the Union Ministry of Health and Family Welfare, even in 1981, only as few as 10 to 15 per cent of deliveries were conducted

by trained birth attendants (Government of India 1981a : 30). In view of this, it is not surprising that maternal mortality rates were as high as 4.8 per thousand childbirths in 1976. The infant mortality rate for rural areas remains as high as 136 with the neonatal mortality rate at 76 and perinatal mortality rates of 60 to 109. Pre-school (1-5 years) mortality rates amount to 35 to 40 per thousand. Newborns having birth weights below 2500 gm constitute as many as 30 per cent of all births (Government of India 1981a : 31).

Table 12.2 gives figures of immunisation coverage of mothers and children in 1980-81. Incidentally, this low level of coverage is despite the launching in 1978 of the Extended Programme on Immunisation (see Chapter 7). Table 12.3 shows how inadequate has been the quality of medical attention received at the time of childbirth.

TABLE 12.3 : Per cent Births by Type of Medical Attention Received at Birth-All India

Type of Medical Attention	SOURCE					
	SRS* 1971		SRS* 1976		SRS* 1978	
	Rural	Urban	Rural	Urban	Rural	Urban
Medical Institutions	7.8	32.2	10.7	38.8	15.6	50.9
Trained Medical Practitioners	11.3	25.5	12.1	24.8	8.6	16.1
Untrained Practitioners	53.1	30.9	53.6	25.5	60.0	26.5
Others	27.8	11.4	23.4	10.9	15.8	6.5

\*SRS—Sample Registration System.  
Source : Registrar General, India, New Delhi—Survey on Levels Trends and Differentials in Fertility, 1979—Statement 23, page 9.

One very significant feature of the profile of health of children in India is that there are wide differences in the rates of infant mortality in different states. As is evident from Table 8.13, dicussed in Chapter 8, there is a wide gap in the rates of infant mortality between states such as Kerala, Karnataka and Maharashtra and states like Uttar Pradesh, Rajasthan and Bihar.

Data concerning grades of protein malnutrition in relation to age in Uttar Pradesh are available from the India Population Project-I and these are presented in Table 12.4 as an indication of the situation. The same study has provided data concerning patterns of mortality and morbidity among neonates in Uttar Pradesh (Table 12.5).

**TABLE 12.4 : Grades of Protein Energy Malnutrition in Relation to the Age According to the IPP—I, U.P.**

Age	Total No. of children	Normal %	Protein Energy Malnutrition		
			Degree I %	Degree II %	Degree III %
—3 months	47	27.7	40.4	29.8	2.1
3—6 months	52	32.7	50.0	15.5	1.9
6—9 months	65	36.9	33.8	24.6	4.6
9—12 months	59	28.8	35.6	25.4	5.2
1—2 years	229	28.4	25.8	33.2	12.7
2—3 years	243	29.2	40.3	25.9	4.5
3—4 years	257	35.8	40.0	21.0	3.1
4—5 years	244	33.2	49.6	16.0	1.2
5—6 years	283	38.5	49.5	11.3	0.7
<b>TOTAL</b>	<b>1470</b>	<b>33.1</b>	<b>41.2</b>	<b>21.4</b>	<b>4.3</b>

*Source : Glimpses on Child Population—Special References to U.P. Population Centre (I.P.P.) Uttar Pradesh, Lucknow, 1979.*

**TABLE 12.5 : Pattern of Morbidity and Mortality Amongst Neonates in Uttar Pradesh**

Disease	1974-78		Case-Fatality Ratio (%)
	Mortality (per thousand)	Morbidity	
1. Neonatal Sepsis	52	5	9.6
2. Prematurity	115	42	36.5
3. Neonatal Jaundice	49	8	16.3
4. Feeding Problem	31	0	0.0
5. Neonatal Convulsion	20	1	5.0
<b>TOTAL</b>	<b>267</b>	<b>56</b>	<b>20.9</b>

*Source : Glimpses on Child Population—Special Reference to Uttar Pradesh, IPP—I, Lucknow, 1979.*

Table 8.17 in Chapter 8 gave the percentage distribution of maternal deaths among sub-causes and by age groups in rural India from 1975 to

1977. A notable fact is that the table shows that there has been virtually no change in the pattern of mortality and morbidity over this period and a considerable portion of maternal mortality is still being caused by such easily preventable diseases as abortion, anemias, haemorrhages and sepsis.

It may also be worth noting that three and a half decades after the launching of the maternal and child health programme, even the very limited impact that could have been expected from the provision of services without any significant improvement in the ecological setting has not been achieved because of serious deficiencies in the coverage. One reason for this is that MCH activities often got linked up with other programmes, among which it was assigned a low priority. Reference has already been made to the observation by the First UN Evaluation Mission on India's Family Welfare Programme, which so categorically deplored the tendency to divert resources for MCH work which could be earmarked for family planning!

It is worth noting also that, while the Union Ministry of Health and Family Welfare admits that as few as 10 to 15 per cent of deliveries are conducted by trained birth attendants, while giving information concerning year-wise 'achievement of targets of immunisation activities' (Table 12.1), it confines itself to selected portions of the target and, even within this limited range, does not measure the performance of preventive activities in terms of their epidemiological impact.

## MEDICAL CARE

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### HOSPITALS AND DISPENSARIES

As discussed in Chapters 5 and 6, the establishment of hospitals and other institutions providing mostly curative services is an interesting facet of the influence of cultural, social, economic and political forces on the evolution of India's health services. Historically, these were developed to cater mostly to the needs of certain strata of the population and because of this, they were located in urban areas. Medical personnel manning these services have also been major direction and pace setters in this development. Expenditure on these essentially urban and curative services has constituted a disproportionately high fraction of the health budget.

However, there have also been voices that have questioned the wisdom of such large expenditure on these services, and there have also been efforts to make these services available and accessible to wider segments of the population. Thanks to increasing pressure exerted by these forces, increasing attention has been paid in recent years to giving a preventive and promotive orientation to the health services and to extending their reach to far-flung rural populations. A virtual doubling of the allocation for rural-oriented preventive and promotive services and an actual reduction in allocations for curative services (at constant prices) was a significant features of the health (services) sector component of the Sixth Plan (see Chapter 4).

Data concerning hospitals, dispensaries and other institutions providing medical care have been presented earlier in Chapter 5.

## HEALTH INSURANCE

## The Central Government Health Scheme (CGHS)

The CGHS was first introduced only in Delhi in 1954. Its aim was to provide efficient and comprehensive medical care to all grades of central government employees. The principle of partnership in a social security measure is maintained with the employee making a monthly contribution on a graded scale. Initially, the CGHS was only for employees of the Union Government. It was later extended to various other categories such as members and ex-members of parliament, and Union Government pensioners and their families. The service has also been expanded to cover 15 cities (Table 13.1) and its benefits are available

**TABLE 13.1 : Central Government Health Scheme—Number of Dispensaries, Beneficiaries, Attendance and Expenditure Per Beneficiary at Different Centres of C.G.H.S. During 1979-80.**

<i>City</i>	<i>No. of dispensaries</i>	<i>No. of beneficiaries</i>	<i>Total attendance</i>	<i>Expenditure per beneficiary (Rs.)</i>
1. Delhi	86	10,78,677	85,85,723	67.70
2. Bombay	22+2*	2,10,399	13,35,484	31.22
3. Allahabad	7	88,918	4,70,436	33.37
4. Meerut	6	57,362	4,93,004	53.23
5. Kanpur	8	80,578	4,86,357	45.72
6. Calcutta	12	1,38,272	7,24,610	38.48
7. Nagpur	10+1**	82,085	7,67,367	52.46
8. Madras	10+1**	97,272	8,22,729	55.80
9. Hyderabad	13	1,53,770	8,98,178	38.19
10. Banaglore	9	83,723	5,46,841	45.57
11. Patna	6	49,363	3,33,033	50.11
12. Pune	6	26,421	2,60,430	114.99
13. Jaipur	6	34,971	3,09,313	73.02
14. Ahmedabad	3	5,935	62,008	153.66
15. Lucknow	2	10,825	99,203	15.24

*Note :* \*Including ayurvedic, homoeopathic and unani dispensaries.

\*\*Sub—dispensaries.

*Source:* GOI, DGHS, *Health Statistics of India*, 1981.

to 550,000 families (about 2.5 million people) (Government of India 1982c).

In the four major cities of Calcutta, Bombay, Madras and Delhi, the CGHS has 125 allopathic dispensaries; 13 are ayurvedic, 14 homoeopathic, and 2 unani. In these cities there are also 4 polyclinics, 43 laboratories and 4 hospitals operating under the CGHS.

In 1980-81, the CGHS served 559,469 families, incurring an expenditure of Rs. 144.9 million, i.e. Rs. 272 per family, of which Rs. 27 was the average contribution per family.

### **Employees State Insurance Scheme (ESIC)**

As a welfare measure, the Government of India established ESIC under the Ministry of Labour. The Union Government, the employers and the employees share the expenses of running it. Medical care is a major component of the services delivered by ESIC. The Corporation provides for general medical care, maternity care, insurance against sickness and employment injury and other similar benefits (Employees State Insurance Corporation 1981). By 1980, it covered 6 million workers and their families. The total population covered by March 1981 was 27,787,800 (Table 13.2). The ESI runs some 70 hospitals and 1,072 dispensaries.

### **Health Services Under Other Ministries**

Ministries which directly employ large numbers of workers have their own organisations for delivering health care services to their employees.

The armed forces have a comprehensive network for this purpose. They also have their own medical college and research institutions to study problems related to military medicine.

The railways and industrial undertakings in the public sector also provide health services for their employees. The Post and Telegraph Department also has a modest network.

In terms of quality, these employees enjoy better services than the general population.

## **INDIGENOUS SYSTEMS OF MEDICINE**

Though several efforts have been made to systematise indigenous systems through setting up of various institutions for education, research and practice, the steps so far taken have not met with much success. It is presumed that their low cost makes them more amenable to quick dissemination and efficient application on a wide scale (Government of

**TABLE 13.2 : Performance of Employees State Insurance Scheme  
In 1982**

Description	As on 31-12-1982
<b>A. Progress :</b>	
1. No. of Centres	451
2. No. of employees (in lakhs)	63.62
3. No. of insured persons (in lakhs)	71.95
4. No. of family units (in lakhs)	71.95
5. No. of beneficiaries, including insured persons for medical benefits, (in lakhs)	279.15
<b>B. Provisions of Hospitals, Dispensaries, etc.:</b>	
(a) Hospitals	83
(b) Annexe	39
(c) Dispensaries	1117
(i) Functioning in Corporation building	225
(ii) Functioning in rented building	892
(d) Hospital beds	22612
(i) E.S.I. Hospitals	16867
(ii) E.S.I. Annexe	798
(iii) Reserved in other Hospitals	4947

*Source : Annual Report, 1982-83 Vol. I (page 41), Dept. of Labour, Government of India.*

India 1948; Government of India 1972). But this is yet to be realised in practice. Very few research institutions concentrate solely on traditional systems of medicine and their output is much below the requirements of a large country like India.

The Sixth Plan has made an allocation of Rs. 270 million for development of those systems (Government of India 1981b : 44-49). The objectives are to improve the quality of education, promote research programmes based primarily on their respective philosophies, planned production of herbal and other medicines on a large scale and their standardisation. All this with a view to close the gap between availability of services in urban and rural areas and achieve the goal of Health For All by A.D. 2000.

Apart from the four apex institutions mentioned in Chapter 5, there are also the Central Council of Indian Medicine and the Central Council of Homoeopathy, which standardise educational curricula for undergraduate and postgraduate courses and also lay down the standards for professional practice. The National Institute of Ayurveda (Jaipur) and the National Institute of Homoeopathy (Calcutta) are autonomous

organisations playing the role of models which evolve and demonstrate high standards of teaching, training and research. There is also an Institute of Postgraduate Training and Research in Ayurveda at the Gujarat Ayurvedic University, Jamnagar. This is financed through the University Grants Commission. Institutions for study of unani medicine are the Tibbia College, Delhi, the A.K. Tibbia College of Aligarh Muslim University, and the Government Nizamia Tibbia College, Hyderabad. Post-graduate training in homoeopathy is not yet available in India.

The Union Government also encourages voluntary agencies to take up work with traditional systems through grants and it has also helped state governments to set up pharmacies dealing in drugs used by these systems with 100 per cent financial assistance.

The Sixth Plan emphasizes the need to take steps in the following directions (Government of India 1981b : 49):

1. Prevention of growth of substandard educational institutions.
2. Adequate financial support to existing recognised institutions for improvement in quality of teaching and research.
3. Introduction of modern and scientific methods of investigation and equipping students with adequate knowledge of subjects like physiology, pathology, anatomy, etc.
4. Developing curative facilities under these systems through more hospitals, dispensaries, etc.
5. Coordinating all research efforts to ensure purposive and fruitful research.
6. Standardisation of the pharmacopoeia and manufacture high quality drugs.

While governments are facing considerable difficulties in popularising the practice of different indigenous systems of medicine, even in the private sector the place of *vaid*s is being increasingly taken by so-called Registered Medical Practitioners (RMPs). Data from the 19-village study have revealed that, often, *vaid*s are themselves taking to the use of various kinds of injections, antibiotics and other allopathic medicines to attract clients (Banerji 1973d). An observation of considerable sociological significance is that, at a time when the indigenous systems are losing their popularity in villages, as many as 12 ayurvedic, 14 homoeopathic and 4 unani dispensaries had to be opened under the CGHS Scheme as a response to express demands from the beneficiaries—employees of the central government, who are among the most educated sections of the population and who belong to comparatively high-income brackets (Government of India 1982c). They demanded these dispensaries even though they had available and accessible to them allopathic services of much higher quality than were available to the rest of the population—all free of cost under

the insurance scheme. This might be a pointer to some degree of disillusionment with Western medicine.

## HOSPITALS AND DISPENSARIES AND THE HEALTH SERVICES

A large number of hospitals of small size have been established in district towns. Later, hospitals of even smaller sizes have come into being at taluk/tehsil levels. It is now proposed to have a 25-35 bed hospital for every 100,000 population in Community Health Centres. Already, primary health centres usually have 6 beds, though in some cases the number is as high as 50.

It must also be noted that, considering the load of diseases per thousand population, the availability of hospitalisation facilities is far from adequate. In the circumstances, it is only natural that people give high priority to steps to cure sickness, which is an immediately worrying problem, often threatening life itself. The rural-urban imbalance in the bed-population ratio underlines the urgent need for extended curative services in the countryside (see Tables 5.7 and 5.8). Similar compulsions arise from the wide disparities in the bed-population ratios in different states of the country (see Table 9.13).

## REGIONALISATION OF MEDICAL CARE SERVICES

Since the country became independent, efforts have been made to redress the balance between town and countryside. Over the past three and a half decades, a rudimentary regionalised medical care system has been developed for the entire population. Starting with the Community Health Guide, there is progressive coverage by institutions following indigenous systems, sub-centres staffed by male and female MPWs, rural dispensaries staffed by physicians, outpatient and inpatient components of 'old' primary health centres, new PHCs, subsidiary health centres and community health centres, hospitals located at taluk/tehsil levels and at district levels, general hospitals located in cities, undergraduate teaching hospitals and finally by postgraduate teaching hospitals offering a wide range of highly specialised services. All these form a long chain of inter-linked institutions. Thus, there is now at least a theoretical possibility of a very poor tribal patient, belonging to a remote village, gaining access, at state expense, to a highly sophisticated postgraduate teaching hospital, to get treatment for a condition which requires care from super-specialists.

There have also been efforts in this regionalised system to make the traffic two-way. Apart from patients and their records moving up in the system when necessary, there is also provision for communication from more sophisticated institutions to the less specialized ones to ensure adequate care of patients treated in institutions located near their residences. This also ensures two-way movement of health personnel.

For some times a programme was operated under which specialists from teaching institutions went to rural areas to run mobile hospitals, called Chittaranjan Mobile Hospitals (Banerji 1975a). The programme did not last. In 1980, each medical college was assigned three PHCs which it was expected to support with all its personnel and facilities—the Rural Orientation of Medical Education (ROME) Programme. The object is, of course, to give the rural populations served by these PHCs the benefit of the services of specialised physicians who are expected to visit these PHCs along with their students as a part of their normal teaching work (Government of India 1981b : 371).

As described in Chapter 7, a regionalised approach has also been adopted as an integral component of the overall system of regionalised medical care in dealing with problems of blindness, tuberculosis and leprosy.

## HOSPITALS AS SOCIAL INSTITUTIONS

Hospitals are the most visible symbol and also the most important element of Western medicine. They are the dominant influence on its culture, acting through the system of education and training of physicians, and other health workers, through socialisation of these workers into the 'culture' of various kinds of hospitals and by their dominant influence on the growth and direction of medical knowledge through research conducted within hospitals.

The members of a community perceive a hospital in two different ways : (a) as a source of liberation from suffering caused by ailments of various kinds; (b) as an awe-inspiring, forbidding, mystifying and a culturally alien institution.

An examination of certain features of the development of the Western system of medicine is necessary for a general understanding of its nature. One is the phenomenal growth and development of medical technology, particularly since the latter half of the nineteenth century. This technology is often projected as a liberator of human beings from many dreaded diseases. Treatment of a disease is considered to need some sort of 'technological fix'. In the flush of major medical breakthroughs, it was earlier believed that what one needed, for alleviation of suffering

caused by diseases, was a clever, well-equipped medical technologist, who would 'fix' most of diseases.

While medical science and technology continued to 'advance' at an exponential pace, it was only after World War II that any serious efforts were made to involve social scientists in the planning and organisation of health care (Leavell 1953). This involvement was more to ensure greater acceptance by the people of a given package of health technology, that is handed down to them by the technologists, than to use social science concepts and methods to restructure medical technology so as to make it more relevant to the needs of the community as a whole (Banerji (1982b) (see also Chapter 15).

As is the case with other products in rapidly industrialising societies, market pressures have been a powerful motive force in the 'spectacular' advance in medical science and technology. They have played a critical role in projecting problems of sickness not simply as technological problems, as problems requiring a "technological fix", but also as problems that are amenable to the particular brand of technology marketed by them. When social scientists were finally brought on the scene, the same market forces ensured that a good portion of the efforts of social scientists were directed towards 'selling' the product (in the form of medical technology) manufactured by them (Mcknight 1978).

Thus, apart from having elements, that are undoubtedly rational and scientific and instrumental in alleviating suffering, the Western system of medicine also has many elements which are patently extraneous, imposed on it by market forces. Unnecessary hospitalisation, excessive or even totally unwarranted use of drugs, tonics, vitamins and baby foods, excessive use of diagnostic tests and performance of unnecessary surgical operations are some examples of the undesirable consequences of this (Sterky 1978; Illich 1977). Probably even more than being an instrument for alleviation of the suffering of the sick, the entire system of medicine in Western countries has taken the form of an industry in which human suffering becomes an object of profit, and market forces 'create' demands for the products of the industry among the potential consumers.

Another major aspect of the sociology of hospitals in Western countries is that increasing sophistication of methods of diagnosis and treatment tended to increase the problems of the underprivileged in getting access to medical institutions. They had made this an issue for political and economic struggle and have, through the years, achieved significant gains (Banerji 1981d).

As has been pointed out in Chapter 1, the Western medicine came to India under far more unfavourable conditions than in the areas of its origin and development. The colonial rulers built hospitals and institutions for education, training and research in medicine (like other insti-

tutions) on the Western model. These developments brought little or no benefit to the large mass of the Indian people, especially the rural masses. Indeed, by diverting scarce resources to building and maintaining sophisticated hospitals, principally meant for the privileged, they did positive harm by leaving nothing for development of community medical care.

However, due to a number of cultural, social and economic factors which need not be gone into here (Banerji 1979a), efforts to build hospitals in the image of those in the West have not been uniformly successful (see also Chapters 27 and 30). There has developed a sharp stratification among community hospitals in terms of levels of technology and such basic amenities as hygiene, nursing, food, linen, floor space, furniture, quality of equipment, and so on. At one end of the spectrum, there are the highly sophisticated hospitals built by contractors from Western countries on a turnkey basis (but not always well maintained and managed); at the other are the over-crowded, filthy and grossly mismanaged and ill-equipped hospitals in mofussil areas, where the 'privileged' few among the under privileged manage to get admission for treatment of such conditions as intestinal perforation, typhoid fevers, ante-partum and post-partum haemorrhages and various types of malignant growths. In between, there are the expensive teaching hospitals and general hospitals (of smaller size in smaller cities). Besides, when even the most sophisticated hospitals in India are not considered good enough, the rich go to hospitals and other medical institutions in 'advanced' industrialised countries.

## ANALYSIS OF PRIMARY HEALTH CARE IN INDIA

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THE *ends* of a primary health care approach are the same as those of several other approaches that have been successfully adopted earlier in many countries of the world, namely, effectively meeting the health needs of a population. It is, however, the *means* that are adopted to attain the ends which distinguishes this approach from others hitherto followed.

Unlike earlier approaches, which involved taking medical and public health technology to the people, the primary health care approach starts from the people. This starting from the people in order to meet their health needs implies a fundamental shift in the role of technology in a community health programme. Promotion of self-reliance in the health services by handing over the tools to the people, so that they themselves are able to cope with the bulk of their health problems is the sheet anchor of the primary health care approach. It ensures that, when people feel the need for more elaborate technological supports to cope with their health problems, they have access to such technology through various levels of a community health service system.

Evaluation of primary health care programmes thus involves, first, evaluation of the degree to which the health needs of the people are met, both in terms of the *process* of meeting such needs as well as in terms of specific epidemiological criteria; second, evaluation of the degree to which the community takes action in dealing with its health problems. On this basis, the parameters for evaluating the health care activities of a primary health care programme will include :

1. Extent of understanding of the epidemiological aspects of the major health problems of the community.
2. Extent of understanding of community perception, pre-existing community health institutions and community response to various health

problems in the context of the pre-existing community health institutions.

3. The process of formulation of socially relevant, economically feasible and epidemiologically effective technological procedures for meeting community health needs. This includes a study of:
  - (a) alternative technological solutions, by taking into account the pre-existing health practices and the knowledge of the indigenous systems of medicine;
  - (b) effectiveness and costs of alternative solutions;
  - (c) logistical needs for implementation of solutions; and
  - (d) degree of community acceptance of the solutions.
4. Linkages of the community health worker with the national health programmes.
5. Mechanism for providing referral support from the pre-existing community health institutions.
6. Health information system for primary health care services.
7. Training and supervisory support to the community health volunteers.
8. Actual implementation of primary health care programme, for example.
  - (a) coverage of the population in terms of:
    - i. the national programmes,
    - ii. medical care services,
    - iii. immunisation services,
    - iv. maternal and child health services,
    - v. family planning services, etc.;
  - (b) quality of the services provided; and
  - (c) class and caste distribution of the recipients of the services.

The parameters for evaluating the degree of community self-reliance in primary health care services include:

1. Extent of participation of the community in the selection of CHVs.
2. Extent of involvement of the community in supervising the CHVs and providing support to his/her work.
3. Extent of community involvement in ensuring supply of drugs and equipment to the CHVs and in timely payment of honoraria to the CHVs.
4. Extent of mobilisation of the different sections of the community by the CHVs in various health activities.
5. Extent of involvement of the community in getting more effective

support and services from various government health services institutions and functionaries.

6. Level of perception of the different sections of the community of the CHVs, particularly in the context of promotion of community self-reliance in the field of health care.

Taking the above parameters into account as well as the analysis and assessment of different components of the health services made in the earlier chapters, though significant progress has been made in some fields, it is obvious that much more remains to be done in carrying minimum health care services to the entire population. The framework is presented above to underline the fact that the revolution in the 'culture' of the health service system of the country that was envisaged in the various policy documents (the latest being the Statement on National Health Policy, 1982), is yet to be ushered in, even though the year A.D. 2000 is getting uncomfortably closer.

The balance is tilted heavily against the masses. To be sure, there are the positive factors in the form of a reasonably candid analysis of the causes of the past failures and a clearcut political commitment in the Statement on National Health Policy; structurally, India has the wherewithal to implement primary health care through its organisational network, available stock of the needed manpower and existence of sound institutional support for education, training, research and evaluation. But on the negative side, there are the critical problems of a virtual breakdown of the public health system of the country because of steep decline in the quality of public health practice [as manifested by India's response to the Bhopal Tragedy (Banerji 1985)] and outbreaks of other epidemics (Banerji 1984) (see also Chapter 7) and because, the generalist administrators, who have acquired even greater power, have shown themselves to be utterly unequal to the task. Over everything else is the still very strong domination of the ruling class over the masses. Wrestling of enable it to greater concessions from the ruling class to grapple with the population problem, deepening of the contradictions among the exploiters and increasing pace of democratisation among the masses offer some rays to hope that the balance will finally be tilted in favour of the masses in the not too distant future.

## SOCIAL SCIENCE INPUTS

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### SOCIAL SCIENCE ISSUES

THERE have been extensive references to social science issues in this book. Put together, these issues fall in five broad categories:

#### **Broader Societal Considerations Relating to Health Service Development**

For example, ecology of health and disease; interaction of the inducted Western medical practices and the pre-existing practices; influence of colonialism on health and health services and influence of the national movement against colonialism; political economy of the indigenous systems of medicine; social and cultural foundations of health services; political economy of health, nutrition and population control; social structure and health service development; factors influencing formulation of health and population policies; definition of health and the role of health services; health and politics – influence of democratic forces.

#### **Starting from the People**

For example, relationship of technology and people; critical role of inputs from social sciences for subordinating medical technology to the needs of the people; community power structure and dynamics of social and cultural change; the concepts of felt need and health culture; social dimensions of epidemiology; social orientation of technology; development of a socially relevant delivery system; new approaches to health education; study and analysis of pre-existing health practices.

### **Holistic Conceptualisation of a Health Service System**

For example, a health system as an organised complexity: need for interdisciplinary approaches; relevance of systems thinking, systems analysis and operational research; role of concepts and methods of social sciences; role of social scientists in interdisciplinary research teams; the example of formulation of the National Tuberculosis Programme; scope for using such approaches in other fields of health services; social planning for health services.

### **Social Science Contributions in Special Areas**

For example, sociology of knowledge of medical sociology, medical anthropology and other social sciences in health; analysis of relationship of nutrition and mental development of children and social and political implications of such attempted correlations; political issues in the analysis of causes of fall in the birth and death rates in Kerala; influence of market forces on research and practice of nutrition and nutrition education; markets for X-ray machines and promotion of mass screening in tuberculosis; drug industry and socialisation of physicians; sociology of medical education; social issues in programmes for water supply and environmental sanitation; ecological approach to problems of maternal and child health; social issues in leprosy; biological and cultural consequences of poverty and malnutrition; measurement of malnutrition; 'soft' approach to the Directive Principles of the Constitution, Sokhey Committee, Bhore Committee, Bhubarest Declaration, National Health Policy National Policy for Children and rural orientation of education, practice and research and entrusting of people's health in people's hands.

### **Negative Role of Social Scientists in Health Service Development**

For example, distorted accounts of health behaviour of people due to poor scholarship, ethnocentrism, prejudices and subservience to political and market forces; distortion of practice of health education; unscientific approach to problems of treatment default-in tuberculosis and leprosy, for example; active role of social scientists in imposing predetermined and prepackaged technologies on people through high pressure salesmanship and victim blaming; actively generating data to subserve vested interests within the country and interests of foreign countries and foreign agencies; participating in the perpetuation and growth and development of a Malthusian population control programme; grossly exaggerating the role of the so-called voluntary agencies,

## **A FRAMEWORK FOR A MORE COMPREHENSIVE SOCIAL SCIENCE APPROACH TO HEALTH SERVICES**

Though the list of the social science issues drawn up above is not complete, it provides ample material for drawing up a framework for a more comprehensive approach:

1. That a health problem has to be seen in terms of the dynamics of the biological interactions between the causative agent(s) and a human group against a background of human ecology, which includes cultural, socio-economic and political factors, which influence the natural history of the health problems in that group or community.

2. Understanding of the people concerned—the patients, the families and the community at large—is central to formulation of any programme for intervention in the epidemiological dynamics of any community health problem. How do people perceive their health problems? What do these problems mean to them socially and culturally (particularly in the case of diseases like leprosy, tuberculosis and mental illness)? What do these problems mean in terms of the suffering caused by them? To what extent do they cause economic suffering? What types of institutions have been evolved within a culture to alleviate the problems perceived by the victims, their families and the community? What is their response to the problems?

3. What should be the approach for formulating programmes of intervention in the dynamics of epidemiology of the problem through an agency to deliver a package of technology, which would blend with the pre-existing health culture, to alleviate the suffering caused to people by health problems—both at a point of time and in a time dimension? The programmes so formulated will be expected, first, to meet the unmet felt needs of the people, and, if necessary, keeping in view the epidemiological situation, active steps can be taken to generate additional felt need to have greater epidemiological impact on the problems. In this approach, social and epidemiological aspects are considered together (see Diagrams 1, 2, 3 on p. 408).

4. As the health culture of a community and its related ecological, biological and overall cultural conditions are dynamic in character, any purposive intervention in the health culture through a health programme should take into account the changes that are likely to occur over a time dimension.

5. Totally overriding and overshadowing the above four considerations relating to health culture is the fifth consideration which concerns the forces within a society which influence decisions about policies, plans and programmes relating to community health problems. By influencing such critical areas, these social forces also influence the growth and the direction of knowledge concerning the problems (Banerji, 1984b).

## INSTITUTIONS FOR SOCIAL SCIENCE INPUTS

Importance of inputs from social sciences for health service development was recognised in India for a considerable time. Over a period of more than 25 years, social scientists have been offered key positions in a number of community health institutions. The All-India Institute of Hygiene and Public Health, Calcutta, the Planning Research and Action Institute, Lucknow, the Rural Health Institute, Gandhigram (Tamil Nadu), the Central Health Education Bureau, New Delhi, the Rural Health Training Centre, Najafgarh, the National Tuberculosis Institute, Bangalore, the National Institute of Health Administration and Education, New Delhi, and the Central/National Family Planning Institute, New Delhi (the latter two merged to form the National Institute of Health and Family Welfare, New Delhi) are the major health institutions with a substantial number of social scientists. All these institutions have received considerable support in the form of funds, consultants and training fellowships from foreign agencies, mostly from the U.S.A. Besides these, social scientists are also attached to several smaller training and research institutions (e.g. preventive and social medicine departments of the 106 medical colleges, in-service training institutions for health and family planning workers and health education bureaus in the states.

Many other social scientists, who are associated with universities, population research centres (see Chapter 9) and some other institutions have also contributed to health fields. The Indian Council of Social Science (ICSSR) had taken major initiatives in promoting social sciences in health fields, in developing alternative approaches to health service development and in social orientation of medical education (Naik 1977; Indian Council of Social Science Research 1973; University Grants Commission 1975).

As in many other fields, social scientists from foreign countries, often sponsored by their own governments or agencies like the Rockefeller Foundation and Ford Foundation, have acted as pace setters in this field (see, for example, Johns Hopkins University 1976; Wyon and Gordon 1971; Government of India 1956).

## MAJOR SOCIAL SCIENCE STUDIES

References have already been made to social science studies (conducted in various institutions) on family planning (Chapter 9), tuberculosis (Chapter 7), community health workers (Chapter 11) and on medical care and hospital administration (Chapter 13). Contributions of the Plan Evaluation Organisation of the Planning Commission in nutrition and contributions of the ICSSR in formulation of alternatives are discussed in Chapters 17

and 22, respectively. Under the sponsorship of the Indian Council of Medical Research (ICMR), the National Institute of Health Administration and Education (NIHAE) (as it was then called) had conducted major interdisciplinary research programmes to study a district health administrative system and the integration of health services India (Tewari et al. 1971; National Institute of Health Administration and Education 1971b). Social scientists have been members of these teams. NIHAE has also brought out a publication on the role of social sciences in health administration (National Institute of Health Administration and Education 1966).

Many references have also been made in the earlier chapters to the study of health behaviour of rural populations in nineteen villages in India conducted at the Centre of Social Medicine and Community Health of Jawaharlal Nehru University (Banerji 1973d; Banerji 1982a). Research scholars at this Centre have also studied dynamics of health culture among Oran tribals of Central India (Sahu 1980), community response to implementation of the Integrated Child Development Programme (Raye 1982), the socialisation process of students in a school of nursing (Mishra 1984), the community health workers' programme and certain community aspects of implementing public health programme in malaria, leprosy and environmental health (Qadeer 1985; Dutta 1980; Rao 1983; Nayar 1982). Scholars of this Centre have also been actively involved in the formulation of an alternative approach to health service development in India (Banerji 1977c).

A pioneering effort was made in the mid-fifties by the Harvard School of Public Health to involve social scientists in an interdisciplinary study to promote use of sanitary latrines in rural India (Rural Health Training Centre Najafgarh, 1973). This included convening of the Conference on Social and Cultural Factors in Environmental Sanitation, where many of the leaders in the field of social sciences were invited to make their contributions (Government of India 1956). Later, another interdisciplinary study was conducted under the leadership of the Harvard School of Public Health at Khanna in Ludhiana district of Punjab (see Chapter 16). In conducting a series of major studies at Narangwal over a period of over two decades (see Chapter 16) the Johns Hopkins School of Hygiene and Public Health had also included social scientists in their interdisciplinary teams. Reference has already been made (Chapter 9) to the extensive study of Mishra and his colleagues from Indian Institute of Technology, Kanpur and University of Michigan (Ann Arbor) on a systems study of family planning in Allahabad and Kanpur Divisions of Uttar Pradesh (Mishra et al. 1982). Many studies have also been conducted at the Indian Institute of Management, Ahmedabad (Maru 1983) and the Administrative Staff College, Hyderabad in connection with the India Population Project-I (India Population Project, UP 1978; India Population Project, Karnataka 1979). There have also been social science studies

in health fields by individual scholars from universities (Banerji 1973a; Central Health Education Bureau 1969). Marriot (1955) and Carstairs (1955) were among the first to study health issues in rural India. They were followed by a number of scholars from the West (see, for example, Gould 1967, Mathews 1979a and 1972b, Opler 1962, Carstairs and Kapoor 1976). Among Indian scholars, there have been studies on cultural aspects of health (e.g., Hasan 1967, Khare 1963, Kocher et al. 1976; Mutatkar 1982) and sociology of nurses (Oommen 1978) and physicians (Madan 1980). At the earlier stages, the dominant theme of the studies was on finding ways of making people accept the services that are handed down to them (see, for example, Pareek et al. 1972; Banerji 1972). Studies which tended to challenge this theme (for example, Banerji and Andersen 1963) did not receive much attention. However, of late there appears to be a shift. There have been fewer studies on that theme (e.g., Srivastava 1981, Mehta 1982), while the influence of the school of thought which pleads for a more broad based and better designed studies of health behaviour of rural populations has been increasing (see, for example, Van der Veen 1979; Foster 1982). In their study of health behaviour of people of village in Tamil Nadu, Djurfieldt and Lindberg (1975) have concluded :

the health of the Thaiyur inhabitants is not a natural fact, but a social and a historical product. Their bad health is the result of a process of impoverishment and exploitation which started long ago, and which continues today as one of the results of the parasitic mode of production dominating Independent India. . . . No matter how sophisticated, allopathic medicine cannot take these people 'out of the poverty panorama'.

Interestingly, as early as in 1958, Foster (1958) had presented convincing arguments to call into question the widely popular 'above-down' approach of health social scientists and pleaded for evolving a change of strategy which started from an understanding of what people actually did in relation to a health problem or a health practice and why they did so. He had emphasised the necessity of 'distinguishing the true clinical core of scientific medicine and the surrounding folklore, magic, custom, and faddism that are included in our institution of medicine.'

More than a decade back, disillusioned with the existing education and practice of medicine, some concerned young physicians and other health workers got together to form what they termed as Medico Friend' Circle. They crystallized their social analysis of the existing system in two publications (Medico Friend Circle, 1977; Bang and Patel 1982). Some of them have recently (1984) brought out a quarterly journal: *Socialist Health Review* (Editorial 1984) to focus more specifically on a Marxist analysis of the health system in India.

## ANALYSIS AND EVALUATION

Social scientists in the West have taken considerable interest in community health. Sub-disciplines like medical sociology, medical anthropology, medical psychology, political economy of health (McKinley 1984), and health economics have come into being. However, when dealing with health problems in a country like India, these scholars have not been very successful in developing broad-based approaches (Foster 1982). Some of the factors responsible for this are discussed below.

Most social scientists presume that Western health practices are 'modernising', 'good', 'desirable', or should be taken as given, and that people should be 'motivated', 'educated', or 'persuaded', through various communication and motivation technologies, to adopt these practices, whose superiority over 'traditional' health practice is considered beyond question (Mahlar 1982; World Health Organization 1983). The well-known ill-effects of Western medicine, due to iatrogenesis, dependency promotion, medicalisation, mystification, professionalisation and commercialisation, are ignored (Illich 1977; Borremans 1978). Furthermore, while urging 'modernisation' of health behaviour, the fact that their 'target' population lacks access to the alternative services is ignored (Banerji 1982a: 218-24).

When called in as consultants to advise on the development of health services, social scientists and health educators from Western countries found fertile ground for applying their pet theories to rural communities which a number of them projected as tradition-bound and superstitious, and believers in magic cures and exotic healing rituals (see, for example, Marriot 1955, Carstairs 1955, Mathews 1979b). They concluded that such communities should be educated by specially trained health educators who would 'modernise' them into accepting Western medicine (Mathews 1979b). Benjamin Paul's (1955) collection of sixteen case studies by some renowned social scientists profoundly influenced an entire generation of students of medical sociology and medical anthropology. It is a striking example of how social scientists 'adjusted' certain basic concepts and methods to lend an academic halo to the then predominant preconceived prototypes of health behaviour of rural populations in 'underdeveloped' countries (Banerji 1973a).

Many social scientists from Third World countries, taking the cue from their mentors in Western countries, have also pleaded for vigorous efforts to change the culture of rural communities to make them eligible for the benedictions of Western medicine (see, for example, Khare 1963, Hasan 1967).

In addition to the above considerations, there have been difficulties in developing a suitable conceptual and methodological base for making use

of social sciences in health fields in a Third World country like India. Firstly, as has been pointed out by Singh (1973), Mukherjee (1973) and Desai (1981) about sociology, Roy Burman (1974), Sinha (1971) and Dube (1978) about cultural anthropology, and Nandi (1974) about social psychology, there has been a very strong tendency among Indian scholars to adopt 'Western reference models'. Models which are being called into question even in the countries of their origin (Sarokin 1956; Mills 1959; Andreski 1972), can hardly be of relevance to India, which is so different, geographically, ecologically, epidemiologically, politically, culturally, socially and economically.

Besides, health studies have not appeared as attractive to Indian social scientists as to their counterparts in the Western countries. The result of all this, as will be seen below, has been that, in spite of the considerable support received by them, the output of Indian health social scientists has been most disappointing (Banerji 1973a; Banerji 1982: 213-18). They have failed to make any significant contributions to conceptual and methodological issues in this field (Pareek et al. 1972).

The comprehensive approach, outlined above, has not received any significant attention in the contemporary literature on health aspects of social sciences. This should be recognized as a major weakness in the knowledge. Social scientists from affluent Western countries could conceivably plead that they had given shape to the existing body of knowledge about health aspects of social sciences because in their countries the problems are different; they are also not so overwhelming and these countries are not committed to making an integrated approach to community health problems. But certainly their counterparts in the Third World cannot use such an explanation to justify following what has been called the 'Western reference model' in approaching problems in their own countries.

The report of an Intra-country Consultation of the South-East Asian Region of the WHO on Appropriate Technologies for Behavioural Science Research on Health Problems (World Health Organization 1982), held in 1981, very well sums up the situation in the Third World:

- a good deal of behavioural science research has been done on health problems in South-East Asian countries;
- the research had little or no influence on planning and operation of health programmes;
- there has been a failure to state clear researchable problems;
- there has been near exclusive reliance on survey research techniques;
- behavioural scientists often seemed more interested in impressing their colleagues with their professional skills than in finding simple,

operational answers needed in the planning and operation of health programmes; and,

- there was the desire of the health personnel to impose a quantitative biomedical research design on social research.

George Foster, who had been working in this field for over three decades (Foster 1978), had been the most notable amongst those who assisted the Consultation.

Leprosy is being taken here as an example as it was used as one of the four case study exercises. Mutatkar's observation (Mutatkar 1984) on the present status of social research in leprosy provide an instance of poor state of thinking on this subject. There have been some vague references to planning and operational activities, but the main thrust has been on questions of stigma against leprosy, case-finding and case-holding and on health education. It is regrettable enough that only these three issues have been singled out for special attention, without adequate attention being paid to the other factors which influence them significantly (e.g. supply of drugs and easy access to them, coverage, interpersonal communication and worker-patient and worker-community relationship); a still bigger shortcoming is that some of the most elementary norms of social science research have not been adhered to in examining these issues. For instance, even though one so often comes across in the literature reference to 'stigma' against the disease in the community, there is virtually no elaboration of the phenomenon: the extent of stigma in different segments of a community; what other factors influence its extent? how it has varied with time? a comparison of the dynamics of stigma against leprosy with that against tuberculosis or mental illness.

Referring to the preoccupation of social scientists with case-finding and case-holding, Foster (1982) observes:

The striking thing about these questions is that almost all assume that effective health care can be achieved only when members of traditional communities change their health behaviour. Rarely if ever the question is asked, "How can anthropologists help to change bureaucratic behaviour that inhibits the design and operation of the best possible health care system?"

A little later, Foster goes still further to plead for a more comprehensive approach:

We would like to study health bureaucracies, attempt to determine ways in which their structure and operations might be changed to offer more effective services, and communicate to health personnel the urgency of

making these changes. Most—but not all—of the health personnel with whom I have worked in recent years are genuinely surprised when it is suggested that changes in their beliefs and behaviour is necessary if adequate health care is to be provided. And those who do recognize the importance of bureaucratic factors in health care delivery feel—realistically, I suspect—that this is a constant about which little can be done. If changing behaviour will result in effective primary health care, it must be community, not bureaucratic behaviour, that changes.

### **SOCIAL RESPONSIBILITY OF SOCIAL SCIENTISTS**

Among other responsibilities, social scientists, are required to become 'spokesmen for the people' by using concepts and methods of their discipline to articulate people's points of view and put them across to decision makers to ensure formulation of people oriented health programmes.

The message from Alma Ata increases their responsibilities still further because it enjoins them to contribute the promotion of social control over health services, promote community self-reliance and articulate democratic aspirations of people in the field of health. Following these concepts, the recent WHO Expert Committee on New Approaches to Health Education for Primary Health Care (World Health Organization 1983) (see also Chapter 25) has categorically dissociated itself from the earlier approach to health education.

Unfortunately, social scientists have not risen to this challenge. Indeed, quite often social scientists and health educators have ended up virtually in working against the interests of the people. As pointed by Foster, they have not questioned the programmes or their operation, but they have willingly become sales agents of the 'bureaucrats' and have attempted to impose predetermined and prepackaged programmes on the people—without taking into account the people's point of view; without 'going to the people to learn from them'. Their efforts to increase case-finding and case-holding in leprosy programmes, without questioning their (i.e. the programmes') working, is an instance. In performing their role, they had to make the astonishing assumption that a large proportion of the victims of leprosy have such a distorted culture that they would rather get mutilated, deformed and disfigured than accept the programme and only trained health educators can show them the right way. A similar assumption was made in the case of treatment defaulters in the National Tuberculosis Programmes. However, carefully conducted studies in Bangalore and in Delhi showed that in more than nine out of ten cases, the 'fault' lay not with the 'defaulters' but with the organisation and management, including

the behaviour of the bureaucrats, referred to by Foster (Banerji 1970; Banerji 1967a; Singh and Banerji 1968). It is tempting to consider this almost pathological preoccupation of leprosy social researchers with stigma and health education for case-finding and case-holding as an attempt to cover up the guilt of the influential sections of the society for such a gross neglect of the problem of leprosy since independence.

More than half a century ago, Mahatma Gandhi, who never claimed to be a trained social scientist, had gone down to his knees to tend to the wounds of a leprosy patient. This was a symbol of his identification with his suffering. To an invitation to open a leprosy hospital, Gandhi has been quoted to have written (Gandhi Memorial Leprosy Foundation 1974): 'Get someone else to open it; opening of a hospital is not a big matter, but I shall come to close it'.

His identification with the masses also enabled him to practise and promote self-reliance in health through locally developed rural sanitation and other preventive measures and indigenous healing practices long before such an approach was sanctified in the Alma Ata Declaration (Gandhi 1927: 256-57). Similarly, Chairman Mao, following the dictum of 'Go to the people and learn from them', learnt to demystify health practices by having 'barefoot doctors' and by giving a rightful place to the traditional Chinese system of medicine in the health services of New China (Sidel and Sidel 1975).

A basic weakness in social research in health is that the researcher, even on the rare occasions when he sets out to study the masses, sees them from the researcher's own (not always very correct) world view, rather than documenting what actually people feel, or what actually happens concerning the issues he wants to examine. There is a great distance between him and the 'subjects' he studies: a powerful ethnocentric bias distorts his vision. Gandhi and Mao did not have that difficulty because they never pretended to be social scientists—but they had empathy for the people.

## RESEARCH AND DEVELOPMENT

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AS NOTED in Chapter 5, an enormous network of research institutions has been set up in India to deal with various aspects of the country's health problems (Pandit 1961). The Indian Council of Medical Research has been involved in such pioneering efforts as the National Sample Survey of Tuberculosis, the clinical trials at the Tuberculosis Research Centre, Madras, and the BCG Vaccination Trial at Chingleput, and a number of research and evaluation studies on several other national health programmes.

However, as repeatedly pointed out earlier, with the possible exception of tuberculosis, where it was the National Tuberculosis Institute, Bangalore, of the Directorate General of Health Services of the Union Government, which played the key role, the role of ICMR in conducting research for development of health services in India has been extremely inadequate. It can be safely asserted there have been very few programmes which have been built on the foundations of research inputs from the ICMR. Also, few of the other programmes have received research inputs from the ICMR which have materially improved their performance. This again reflects the research climate prevailing in the country. Efforts to promote excellence in health systems research has been conspicuously absent in most instances, the vacuum being filled by research of sub-standard quality, which at times becomes even counter-productive.

The Group on Medical Education and Support Manpower (Shrivastava Committee) had submitted, in the early seventies, an elaborate programme for immediate action which called for considerable research efforts (Government of India 1975: 51-52). However, thus far, very little has been done in the field of research on health manpower development in India.

Similarly, in 1981 the ICSSR-ICMR Study Group (ICSSR-ICMR 1981) presented an alternative strategy for "Health for All" and even five years

later there was little evidence that this had been followed up with concrete efforts involving systems research. To be sure, many research projects have been funded, but from the point of view of research design, few of them really measure up to the requirements needed for testing out the essential elements of the suggested alternative. In fact, it was promised that the report would soon be followed by other volumes which would contain the background documents and data which had formed the basis of the recommendations (Antia 1981). Even these volumes have not yet (1985) been published. This is yet another instance of a study which has provided the basis for the Union Government's strategy for providing Health for All by A.D. 2000, for formulating programmes of far reaching significance, being sought to be implemented without adequate data, and without support from properly conducted operational research studies.

In the absence of a strong commitment to health systems research on sound lines, which is an essential requirement for studying a highly complicated health service system, there has been a tendency to adopt a rather simplistic approach to health services research. The India Population Project-I is an example. As has been pointed out in Chapter 9, it was an elaborate effort, which also involved such prestigious foreign agencies as the World Bank and the Swedish International Development Authority (SIDA), besides the Union Ministry of Health and Family Welfare. Its cost ran up as high as US \$ 30.8 million. It focused on what essentially turned out to be the child survival theory of population control.

Apart from basic flaws in the conceptualisation of the problem and in development of the research design, India Population Project-I encountered basic problems in implementation (Maru et al. 1983). The net result has been that, thus far (1985), scholars outside the government cannot get even a report of this very expensive experiment. However, a recent paper (Bergstrom 1982) has given indirect evidence of the failure of IPP-I to find answers to many of the questions it had set out study. Unfortunately, IPP-I has been followed, again with the full backing of the World Bank, by what has been called IPP-II in the states of Andhra Pradesh and Uttar Pradesh. As mentioned in Chapter 9, this approach has been extended to fourteen other states in the form of Area Projects, with the express purpose of channelling aid from foreign countries.

The core of the Area Development Projects is what is called the 'Model Plan'. Once again, the Model Plan appears to be a very mysterious entity. There are very few, outside the government and the agencies concerned, who are familiar with the details. Little is known about the research processes which led to the formulation of the so-called Model Plan.

Staffan Bergstrom, who as a SIDA consultant, studied the IPP-II proposal against the background of the experience of IPP-I, is one

of the few who had access to the data. He made a critical analysis of the IPPs and Area Projects (Bergstrom 1982). In fact, his observations created such an outcry in Sweden that SIDA had to withdraw from IPP-II, making it a solely World Bank project. Because of the relevance of Bergstrom's comments for an assessment of the research base of the Area Projects, he is being quoted at some length. Commenting on IPP-I, he observes (Bergstrom 1982):

During the implementation of the First India Population Project (IPP-I) it was clearly demonstrated that the excesses committed regarding male sterilisations made MCH service delivery suffer. Personnel and material resources were withdrawn from the MCH sector in order to satisfy targets of 'family welfare' (sterilisations). In addition, the persuasive efforts to have individuals accept sterilisation—particularly post-partum in women—created fears that institutional deliveries in practice meant sterilisation. In many places the decrease in institutional deliveries were dramatic and the adverse health effects of the family welfare policy became obvious.

His analysis was even more penetrating concerning the IPP-II :

There seem to exist at least two obviously different interpretations of 'family welfare': one which is merely a synonym of population control; and another one which embraces a wider range of activities related to health and socio-economic welfare. In several statements from the central government on population policy there is a tendency to abandon the narrow and population-control-orientated approach in favour of the health-oriented approach. In fact, the latter stance seems to be the only one feasible for the central government if popular confidence is to be maintained in the seriousness of post-Emergency reorientation towards 'welfare'. Still, at the state level, the narrow population-control-oriented interpretation is prevailing, supported by the World Bank and SIDA in particular. This situation seems to be quite alarming from health points of view. In the current project associative use is made of family welfare as something related to socio-economic security, wealth and poverty removal. By the mere choice of 'welfare' instead of population control, fertility reduction is automatically linked to poverty reduction. Several examples of this use of 'family welfare' can be given. Thus, when speaking of 'family welfare methods' it is specified that various contraceptive methods (and nothing else) are meant. In the primary health centres buildings called 'family welfare annexes' are to be constructed. These annexes concentrate entirely on what is called 'female contraceptive surgery', which means sterilisation of women and induced abortions. By speaking of 'family welfare incentives' the project is aiming at monetary compensation for acceptance of sterilisations.

That (mostly very poor) people must be paid money to accept promotion of their own 'welfare' seems strange, and must imply that 'family welfare' in this sense is a non-perceived health need in the population. Again, somewhat paradoxically, a very specific component of actual welfare is imposed upon the people by way of paying them. It is meant that this money is to be compensation for lost wages, travel expenses, etc. If this were a valid argument to promote family welfare in a broad sense, similar incentives should certainly be paid to mothers and fathers who have their children immunised or to pregnant women who travel from their villages for scheduled institutional antenatal care visits; this is, however, not the case. The IPP-II project is particularly alarming since it has not been shown in any field study that sterilisation actually means a net improvement in the socioeconomic conditions for families in which one of the parents has been sterilised. From a 'welfare' point of view such investigations should be considered a prerequisite before—as in IPP-II—female sterilisations are implemented on a large scale.

Being in the position of a medical consultant in the appraisal of IPP-II documents in 1979, the author had the opportunity to scrutinise, both in the project texts and in the field, the meaning of 'family welfare'. It was obvious that 'welfare' in practice must mean a non-perceived health need. This seems to be an unusual interpretation that exposes the particular implications of this concept that exist in India today. The most illustrative feature of 'family welfare' is the information, education and communication (IEC) component that is to break a recognised and widespread opinion resistance in the population. It is almost completely focused upon non-health aspects of 'family welfare' and contributes strongly to the demography-oriented approach. Mother and child health care is virtually a subordinate and marginal portion of 'family welfare' and felt health needs in the population are not covered to any discernible extent in the implementation of this kind of family welfare policy.

As has already been mentioned in Chapter 15, apart from these efforts, there have been a number of public health studies conducted by foreign agencies. The earliest of these was called the Research-cum-Action Project on Environmental Sanitation through Popularisation of Sanitary Latrines (Government of India 1956). The basic hypothesis of this project, which was carried out in the early fifties by the Harvard School of Public Health under the sponsorship of the Ford Foundation, was to improve environmental sanitation through popularisation of sanitary latrines. Another study popularly known as the Khanna Study (Wyon and Gordon 1971) aimed at popularising foam tablets as a contraceptive device in a region in

Punjab. This was also a project of the Harvard School of Public Health. There was also a concurrent study of child nutrition which led to the identification of Weanling Diarrhoea as a clinical entity. A third project has in fact been a long series of studies conducted at Narangwal under the auspices of the Johns Hopkins School of Hygiene and Public Health. Apart from studies in medical education, nutrition and functional analysis of primary health centres, this group had also attempted to make a comparative study of various combinations of child care, maternal care and family planning (Johns Hopkins University 1976). It is not necessary to discuss these three studies in details. It will be sufficient to observe that none of them has been able to make any significant impact on the development of health services in the country.

The National Institute of Health Administration and Education embarked on two major research studies: one concerned a systems study of a district health organisation (National Institute of Health Administration and Education 1971b); the other examined the integration of health services in the different states (Tewari et al 1971). Again, because of flaws in conceptualisation, design and implementation, it has not been possible to draw conclusions which are of any significance to health service development in India.

This brief account of research studies provides an indication of the manner of functioning of key research institutions which have been specifically set up to strengthen the health service system of the country.

The All India Institute of Medical Sciences (AIIMS) in New Delhi, as also the other postgraduate institutes set up at Calcutta, Chandigarh and Pondicherry, were expected to experiment in medical education and to become centres of excellence in research. The fact that, thus far very few contributions of significance have come out of these institutions to enrich these very vital fields provides an index of their effectiveness. Indeed, the AIIMS has had what has been called a Field Practice Area for over 25 years and yet it has not succeeded in even demonstrating how to develop an efficient and effective rural health system which is linked to a metropolitan hospital. This is quite apart from the basic question of replicability of such experience on a nationwide scale. One can question whether, as a field practice area, it can be replicated in terms of resources even by ordinary medical colleges in the country (Government of India 1983d). What then is the contribution of AIIMS to the growth and development of the discipline of Preventive and Social Medicine which was supposed to play such a vital role in bringing about a social orientation of medical education in India? In passing, it may also be observed, that not even one out of the 106 departments of preventive and social medicine, many of them with facilities for offering postgraduate education, has been able to make a research contribution which has significantly influenced any aspect

of the entire health and family planning service system of the country (Government of India 1975).

The All India Institute of Hygiene and Public Health, which had at one time (at the time of the late Dr. J.B. Grant) acquired a position of world eminence, has also not shown any evidence of being instrumental in the shaping of the health service system of the country during the last 35 years. These comments apply also to the other two institutes from which there were high expectations, namely the National Institute of Health Administration and Education (National Institute of Health Administration and Education 1977) and the National Institute of Family Planning (National Institute of Family Planning 1975).

## PART FIVE

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### INTERSECTORAL PROGRAMMES FOR HEALTH

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## NUTRITION

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### THE PROBLEM

THE Sub-committee on National Health of the National Planning Committee (1938) as well as the Bhore Committee (1946) (see Chapter 2) had expressed deep concern on the size and extent of India's nutrition problem. Later, the annual surveys carried out by the National Nutrition Monitoring Bureau (NNMB) of the National Institute of Nutrition (NIN) (National Nutrition Monitoring Bureau 1980) and other studies have presented more detailed, quantitative data on the subject. Researches of workers like Gopalan (Gopalan and Narsingharao 1971) and Sukhatme (1978) have shown that the problem of calorie deficiency is by far the most crucial factor in malnutrition. As calorie consumption is directly linked to purchasing capacity, the problem of nutrition is closely linked with the problem of poverty. Indeed, one of the classical studies on poverty is based on the measurement of calorie consumption (Dandekar and Rath 1971). Dandekar and Rath have shown that about half of India's population does not get an income sufficient to purchase its minimum calorie needs. These findings tally with those of the NNMB. A later study by the present writer has confirmed this (Banerji 1982a : 29-30; Banerji 1981c).

While calorie deficiency is the basic problem, there are two other specific deficiency conditions which have also received particular attention: deficiency of iron and others nutrients, a major factor responsible for the widespread prevalence of pregnancy anaemia; and deficiency of vitamin A in the diet of children, considered an important cause of blindness.

The Union and state governments have sought to tackle these problems through short-term nutritional intervention programmes, included in successive Five Year Plans. International agencies like UNICEF, the FAO, the World Food Programme (WFP), Cooperation for American Relief

Everywhere (CARE) and the Red Cross Society have aided some of these programmes. The major ones are the School Mid-day Meal Programme, the Applied Nutrition Programme, Supplementary Nutrition Programme, the Vitamin A Prophylaxis Programme and the Special Nutrition Programme (Government of India 1981b : 377-79).

### **School Mid-day Meal Programme**

More than 16 million children between the ages six and eleven in some states are covered by this programme which began in 1961-62. Meals, snacks, milk and other diet supplements are given to children in primary schools. The major assistance comes for CARE and some from the WFP.

### **Applied Nutrition Programme**

This programme aims to improve the nutrition intake of nursing and expectant mothers and of children through promoting interest in domestic production of protective foods and their consumption by these groups. Training of health workers and health education are important components of this programme. 1375 Community Development Blocks have been covered by the programme. Organisations like UNICEF, FAO and WHO have been assisting in its implementation.

### **Supplementary Nutrition Programme**

This was a programme catering to specific slum areas in the cities of Bombay, Calcutta and Delhi. It attempted to give supplementary nutrition to children. This programme has now been merged with the Integrated Child Development Scheme (ICDS).

### **Vitamin A Prophylaxis Programme**

As described in Chapter 7, this programme operates in many endemic blindness areas to prevent its occurrence in new generations.

### **Special Nutrition Programme**

This was launched in 1970-71 to cover pre-school children and pregnant and lactating mothers through a 'take home' system. By 1980, 6 to 8 million children were to be covered by it. Evaluation groups have drawn attention to many shortcomings in its conception and implementation. Apart from the lack of minimum physical infrastructure at nutrition centres, nutritional intervention through distribution of supplementary

foods can have only limited effect on beneficiaries. It has also been pointed out that nutritional programmes cannot be wholly successful unless fully integrated with primary health care.

### **Integrated Child Development Scheme**

In the light of the assessments of the Special Nutrition Scheme, a new one, the Integrated Child Development Scheme (ICDS), was devised and launched in 1972 (Government of India 1978e). It provides for an integrated delivery of a package of services to pre-school children (below 6 years of age), pregnant women and nursing mothers.

The scheme is a centrally sponsored one, implemented by the Department of Social Welfare. In October 1975, 33 ICDS projects were taken up. The programme has been expanded gradually and the Sixth Plan's objective is to extend it to 1000 blocks. The package of services provided by the ICDS includes:

1. Supplementary nutrition
2. Immunisation
3. Health check-up
4. Referral services
5. Nutrition and health education
6. Non-formal education

The number of villages covered by each Rural Project (non-tribal) is usually 100 with a population of about 100,000, of which about 17 per cent would be below 6 years old, and 20 per cent women in the 15-44 years age group. An Urban Project (one or more slums/wards) usually has the same characteristics. A Tribal Project covers about 50 villages and a population of 35,000 with about the same proportions of eligible women and children as in the Rural Projects. The Anganwadi with an Anganwadi Worker in each village is the centre for delivery of services. Each Project is headed by a Child Development Project Officer. ICDS funds are also used to strengthen the functioning of PHCs in project areas through addition of posts of a medical officer, two lady health visitors/public health nurses and ten ANMs. This staff, though funded by the ICDS, form an integral part of the PHC team.

The Department of Social Welfare directs the programme. Health and nutrition aspects are monitored by various medical colleges attached to each project and overall guidance to the programme is rendered by a Central Committee at the All India Institute of Medical Sciences, New Delhi. The training and orientation of personnel is carried out by the Department of Social Welfare.

## ANALYSIS AND EVALUATION OF ICDS

The Programme Evaluation Organisation (PEO) of the Planning Commission has carried out an assessment of the working of the ICDS in two phases, in 1976 and 1977-78, covering a baseline survey and a recheck (Government of India 1976b).

The evaluation outlined the deficiencies yet to be overcome and the need for improving the cost-effectiveness of delivery of the health and nutritional components. It was noted that there was a lack of full involvement on the part of health agencies at every level. Basically, it was found that there was lack of communication between the deliverers of services and the beneficiaries.

In contrast, a study by the Biostatistics Division and Human Nutrition Unit of the AIIMS reported a very positive impact of the ICDS on the beneficiary population (Tandon 1980). According to this study, considerable improvement was noted in the study population after utilisation of the ICDS package of services for 20-21 months by pregnant and lactating mothers, and by children.

The National Institute of Public Cooperation and Child Development (NIPCCD) has also conducted a series of workshops for evaluation of the scheme, aimed at bringing about better coordination among different functionaries (Government of India 1978d). The workshops drew attention to the unsatisfactory staff position of many of the projects, irregularity of the supplementary nutrition programme, lack of coordinated approach between health and non-health staff, poor performance of the functional literacy component, etc. However, the immunisation component of the programme was found to be satisfactory.

A recent study of one of the best functioning ICDS projects in Sundergarh District, Orissa (Raye 1982), reveals inadequacies in all the three major categories of services envisaged under the Scheme—nutrition, health and non-formal education.

According to the assessment in the Sixth Plan (Government of India 1981b : 379):

Nutrition programmes introduced in the past did not succeed as their implementation was not closely linked with other programmes like provision of employment, health, safe drinking water, and improvement of environmental sanitation and hygiene.

The objective of the nutrition planning and policy laid down by the Plan is the improvement of the physical capacity of the population, enhancement of the span of working life, and increasing longevity by enhancing the levels of nutrition, health, sanitation, and hygiene, to reduce

mortality and morbidity. The strategy, the Plan document states, must not be merely interventional or particular; it would have to be framed for alleviation of hunger and malnutrition in all sections of society through *family-centred poverty alleviation measures*. Employment and income for working members of a family is crucial for nutrition consciousness, and other factors leading to improved living. Education (formal, primary and middle level and functional literacy for adults) would be given greater attention. Lessons on nutrition, health and population education would be built into curricula. Provision of safe drinking water would be given high priority in the Plan as would environmental sanitation. Some other areas of increased activity would be food production and its conservation through improved postharvest technology, reduction in cost of nutrition delivery through strong local level community organisation. In the gestation period, special attention would be paid to women who are malnourished, for whom the direct nutrition intervention programmes would continue to be necessary. Earlier programmes would be reviewed, reorganised and restructured. The ICDS would be better coordinated and integrated internally with nutrition, health, sanitation, hygiene, water supply and education components. It was proposed to extend the ICDS to 1000 blocks. The Special Nutrition programme was to be extended to cover five million children and 500,000 mothers.

The ICSSR-ICMR Study Group, in its overview of the efforts made in the last thirty years for improving the nutritional status of the people observed (ICSSR-ICMR 1981 : 51-52):

1. There does not seem to have been any significant impact on the nutritional status of children. A comparison of average heights and weight of children belonging to the poor socio-economic groups, as observed in 1955 and 1978 shows very little improvement. If anything, the figures for 1978 appear to be somewhat worse.
2. The nutritional status of our women has shown no improvement and if anything, seems to have deteriorated to some extent.
3. The overall nutritional status of the people also does not show any material improvement. It has deteriorated in some respects (e.g. availability of pulses) and probably become worse among groups where poverty has continued unrelieved or even increased.

The Group has underlined the seriousness of the situation and called for most intensive efforts over the next 20 years to improve the nutritional status of the mass of people, specially of the most vulnerable group of women and children.

## MEASUREMENT OF UNDERNUTRITION

Apart from analysis of nutrition programmes, the problem of measurement of undernutrition is of crucial importance in formulating an appropriate strategy. Indeed, there is an ongoing debate on this question among scholars, many of whom are involved in key decision-making in this sphere (Sukhatme 1981; Dandekar 1981; Rao 1981; Banerji 1981c; Rand and Scrimshaw 1984). This debate revolves around a mechanistic view of measuring the problem in terms of protein/calorie consumption and relating this to allowance recommended by various national and international bodies. Consequently, there has existed a narrow and often unreal view of a life and death problem like poverty and hunger.

The most outstanding flaw in this debate is that it has not been adequately realised that there is an enormously wide range of categories between those who somehow just manage to satisfy their physiological need for food and those who die of starvation or of starvation related diseases. When a human being is unable to satisfy his hunger, apart from this being a problem having considerable social, cultural, economic and political implications, it is for that person also a stark biological problem of personal survival. When he finds his very existence threatened, the human, biological, being fights back in an effort to stop the downward slide and also to regain lost ground. Therefore, in terms of biological survival, apart from the two categories consisting of those who are able to regain the lost ground and those who continue to slide down right up to the point of death due to hunger, there are numerous individuals in other categories of the hungry who continue to slide down or climb up or remain for varying periods in a steady state while remaining within the very wide range provided by the two extremes. The position of an individual in this wide spectrum is determined by the number of days in a year he/she has to suffer from varying degrees of hunger. Therefore, the number of days in a year an individual suffers from varying degrees of hunger is a point of central concern for those seeking a sensitive measure of the degree of undernutrition in a population. The question of the degree to which a human body economises on whatever it is able to eat—by lowering its basal metabolic rate or by otherwise increasing the efficiency of utilisation of the calories in performing work—is of secondary importance and this should not be allowed to cloud the central fact, that the individual is hungry.

By measuring poverty in terms of the degree of hunger satisfaction in the long-term study of nineteen villages (Banerji 1982a: 29-30) it was possible to by-pass the controversy on the merits of various nutritional recommendations. It was also possible to avoid the scholarly controversies concerning variations from the recommended norm, consumer unit, per capita

consumption or per capita income and cost of a recommended food basket. Those who were unable to obtain two square meals (of any composition) all round the year were defined as 'poor'. The degree of hunger satisfaction in each of the villages is shown in Table 17.1.

When each village is viewed as a discrete, purposefully selected entity in itself, an average has very limited significance. But it does show that, taken as a whole, almost half of the population is unable to satisfy its hunger all the year round, with more than a third remaining hungry for three months or more. More significant is the extent of variations in the prevalence of hunger in different villages.

It may be emphasised that, to avoid controversies regarding definitions of the poor, very rigorous criteria were adopted for defining the poor for this study. The proportion of the poor in the population will increase sharply if, instead of adopting merely the criterion of 'two square meals all through the year', the definition is changed to 'two square, *wholesome* meals all through the year', by including even a small quantity of dal, ghee or oil and iron in the recommended meal of the adult and a small quantity of milk for children. The extent of poverty goes up still further if minimum norms of housing, in terms of space and hygiene, are also included. If, in addition, a minimum standard of environmental sanitation and quality of drinking water are taken into account, very few persons will be able to escape being labelled as 'poor'.

## BIOLOGICAL ASPECTS OF HUNGER

Attention has been drawn earlier (Chapter 11) to the Union Ministry of Health and Family Welfare's categorical settlement that as much as four-fifths of the rural population have virtually no access to health services, either government or private (Government of India 1977a). One can also demonstrate without much difficulty, through an epidemiological analysis, that the much-publicised public health measures against diseases such as malaria, smallpox, cholera, tuberculosis, diphtheria, etc. have had only a marginal impact on death rates (Banerji 1977a; Banerji 1981c). One can also safely assert that, during the last three or four decades, there has not been any significant improvement in the levels 'of living' of the lower two-thirds of the population in the country. How then can one explain the rise in the expectation of life at birth in the last three or four decades, particularly the fall in infant mortality rates among the poorer sections (see also Table 8.4)?

Obviously, the category of human beings who were earlier being weeded out in the struggle for existence (as they passed beyond the minimum threshold—'the floor'—for survival), now manage to survive. In the absence of any systematic study of this question, one can only conjecture

TABLE 17.1 : Degree of Hunger Satisfaction

Sl. No.	Village	Fully satisfied	Not for 1 month or less	Not for 1 to 3 months	Not for 3 to 6 months	Not for more than 6 months	Irregular	Total
1.	Amdanga	41.0 (16)	7.7 (3)	33.3 (13)	15.4 (6)	0.0 (0)	2.6 (1)	99.9 (39)
2.	Haringhata	38.8 (31)	6.3 (5)	28.8 (23)	17.5 (14)	2.5 (2)	6.3 (5)	100.0 (80)
3.	Coyalmannam	39.2 (20)	0.0 (0)	0.0 (0)	39.2 (20)	21.6 (11)	0.0 (0)	100.0 (51)
4.	Jadigenhalli	67.5 (54)	0.0 (0)	3.8 (3)	20.0 (16)	5.0 (4)	3.8 (3)	100.0 (80)
5.	Kachhona	55.1 (38)	1.5 (1)	2.9 (2)	34.8 (24)	1.5 (1)	4.4 (3)	100.0 (69)
6.	Pazhambalakode	13.8 (8)	0.0 (0)	0.0 (0)	70.7 (41)	13.8 (8)	1.7 (1)	99.9 (58)
7.	Pullambadi	29.9 (29)	0.0 (0)	7.2 (7)	56.7 (55)	6.2 (6)	0.0 (0)	100.0 (97)
8.	Rupal	77.7 (45)	1.7 (1)	13.8 (8)	6.9 (4)	0.0 (0)	0.0 (0)	100.0 (58)
9.	Rohat	75.0 (54)	0.0 (0)	1.4 (1)	11.1 (8)	4.2 (3)	8.3 (6)	100.0 (87)
10.	Rohota	70.1 (69)	0.0 (0)	8.1 (7)	13.8 (12)	0.0 (0)	8.1 (7)	100.0 (56)
11.	Yelwal	25.0 (14)	1.8 (1)	17.9 (10)	44.6 (25)	3.6 (2)	7.1 (4)	100.0 (56)
12.	Kalur	11.8 (2)	0.0 (0)	23.5 (4)	58.8 (10)	5.9 (1)	0.0 (0)	99.9 (17)
13.	Arnavali	47.4 (18)	2.6 (1)	10.5 (4)	34.2 (13)	2.6 (1)	2.6 (1)	100.0 (38)
14.	Bilaspur	72.2 (13)	0.0 (0)	11.1 (2)	16.3 (3)	0.0 (0)	0.0 (0)	100.0 (18)
15.	Dakshin Duttapara	77.8 (42)	5.6 (3)	5.6 (3)	5.6 (3)	1.9 (1)	3.7 (2)	100.0 (54)
16.	Gambhoi	71.4 (10)	0.0 (0)	14.3 (2)	14.3 (2)	0.0 (0)	0.0 (0)	100.0 (14)
17.	Kamdevpur	59.5 (25)	0.0 (0)	19.1 (8)	11.9 (5)	4.8 (2)	4.8 (2)	99.9 (42)
18.	Rampura	66.7 (14)	0.0 (0)	9.5 (2)	14.3 (3)	9.5 (2)	0.0 (0)	100.0 (21)
19.	Sunni	61.1 (22)	0.0 (0)	0.0 (0)	27.8 (10)	0.0 (0)	11.1 (4)	100.0 (36)
Total		52.3 (516)	1.5 (15)	10.0 (99)	27.8 (274)	4.5 (44)	4.0 (39)	100.0 (987)

Source : Banerji, D., *Poverty, Class and Health Culture in India*, p. 238.

that, due to some hitherto undefined changes in the human ecology, there is a lowering of the 'floor' of survival.

## POLITICAL ECONOMY OF NUTRITION

An increase in life expectancy among the lower segments of the population which is not accompanied by improvement in socio-economic conditions and health services results in a further addition of persons to the category of the poor and destitute, who are even weaker and more vulnerable to diseases as also to exploitation and control by the rich. But though, in social and political terms, these people come even nearer to a vegetative form of existence, they cannot, nevertheless, be labelled as dead, biologically. This gives an additional propaganda platform to the ruling rich to claim that, under their benevolent rule, they have brought about a significant increase in life expectancy among the poor people.

Reference has been made in Chapter 6 to the launching of the concept that severe malnutrition during infancy causes permanent brain damage. This is an instance of active involvement of scientists in politically motivated activities. Nutrition scientists used data from field studies in Guatemala to form the concept (Cravioto 1971). The idea was sold to the United Nations (United Nations 1968). Taking up the refrain, it became an article of faith with some key nutrition scientists of the Third World (Glaxo Symposium on Nutritional Development 1971). These scientists were so mentally conditioned by these ideas from the West that they failed to check the validity of the concept by comparing the current status of mental health of cohorts who were exposed to the Bengal Famine of 1941 or Bihar Famine of 1967 or those of the famine following the Russian Revolution or the hunger of concentration camps of World War II, with corresponding cohorts of matched controls, who escaped these calamities.

Indeed, nutrition scientists are particularly vulnerable to manipulation by political forces and market forces which control the political forces (Banerji 1979b). Unlike physical scientists, it is often difficult for them to be very precise about issues concerning human nutrition. This limitation is exploited by the market forces which use nutrition 'science' to promote their products (Banerji 1981c). Why did it take such a long time for the eminent nutritionists of India to realise that, rather than protein deficiency, it is calorie deficiency which is of central concern? Why did they earlier hitch the individual minimum protein requirements so high? Why were they so vociferous about the superior attributes of animal proteins, the so-called first class proteins? Why did they overplay the importance of essential amino-acids and vitamins? Why is it that such a huge market has been created for many 'tonics' which obviously have no nutritional value? What

about the high pressure salesmanship of baby foods? Why did not the nutrition scientists pay enough attention to basing their research on people as they exists in the community? Why, instead, did they attach undue importance to nutrition research in the animal house or in the laboratory?

To sum up, epidemiological research in the field of nutrition in India has not received adequate attention. Because of this inadequacy, operational research in this field has also lagged very far behind. Worse still, because of this lacuna, there has been a tendency towards rather hasty transplantation of ideas developed through animal experimentation, biochemical studies and clinical research in the formulation of community action programmes. Lack of epidemiological and other studies in relation to the so-called Protein Gap and alleged permanent brain damage due to severe malnutrition in infancy provide very illuminating examples. Most of the nutritional research must emanate from the study of people themselves—from epidemiological studies. Areas for other studies are identified on the basis of epidemiological studies. Social, economic and biological implications of conditions of various grades of malnutrition prevalent in the country and identification of effective ways of dealing with them within the existing constraints offer wide scope for very useful interdisciplinary research in nutrition in India.

## WATER SUPPLY AND ENVIRONMENTAL SANITATION

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### ECOLOGICAL ISSUES

THE problem of water supply and sanitation in India is basically one of human ecology. Deep and extensive poverty is at the root of the grossly unfavourable ecological conditions under which a large majority of people of the country live, in both rural and urban areas. Supply of potable water is either inadequate or absent. Even the minimum quantity of water required for maintaining a minimum level of personal hygiene, washing and cleaning is not available to a large section of the population. Then there is the problem of disposal of sewerage, and drainage of water in both urban and rural areas. There is also the massive problem of the disposal of solid wastes. In urban areas even the minimum necessary level of civic amenities, like proper roads, street lighting and some degree of order in the settlement pattern are absent.

The results of poverty are seen also within houses. There is an extreme shortage of housing and inhuman crowding is the result. A large number of houses are in an extremely delapidated condition, often with thatched roofs which are incapable of withstanding even a moderate shower. Human beings and cattle often live together with the excreta of the cattle compounding the fouling of the environment. There is very little fuel for cooking and the smoke from its burning fills the dwelling. Incidentally, the desparate efforts to get fuel for cooking often lead to indiscriminate destruction of trees which, in turn, leads to ecological problems having far reaching consequences.

There is also an acute problem of clothing. A large number of people have no more than mere rags barely to cover themselves. Women often do

not have even a single change of clothing. The problem becomes particularly severe in regions which have severe winters.

Under such conditions, it is but natural to have widespread infestation of various kinds of insects and pests and a large number of stray animals. It is also often not possible to prevent pollutions of various kinds. There is pollution of the soil due to indiscriminate defecation; there is pollution of the source of drinking water; there is pollution of ponds and rivers and of the atmosphere due to careless discharge of wastes of various kinds, including industrial wastes. There is also exposure of labourers, including child labourers to various kinds of industrial hazards.

This picture has emerged from the study of environmental sanitation of nineteen villages referred to in earlier chapters. Without exception, each of these villages had highly unsatisfactory environmental sanitation (Banerji 1982a : 37). This assessment is confirmed by the ICSSR—ICMR study group (ICSSR—ICMR 1981 : 53-66) and in the Sixth Five Year Plan document (Government of India 1981b : 397-401).

Table 18.1 gives the distribution of the type of the houses in the nineteen

TABLE 18.1 : Housing Conditions

Villages	Variables			Total
	Thatch and Mud	Brick Built	Mixed	
AA (24 Parg)	89.7 (35)	5.1 (2)	5.1 (2)	100.0 (39)
HB (Nadia)	83.8 (67)	5.0 (4)	11.3 (9)	100.0 (80)
CC (Palghat)	9.8 (5)	54.9 (28)	35.3 (18)	100.0 (51)
JJ (Bangalore)	13.8 (11)	85.0 (68)	1.3 (1)	100.0 (80)
KK (Hardoi)	54.3 (38)	12.9 (9)	32.9 (23)	100.0 (70)
PZ (Palghat)	43.1 (25)	20.7 (12)	36.2 (21)	100.0 (58)
TP (Trichy)	52.6 (51)	25.8 (25)	21.7 (21)	100.0 (97)
SR (Sabark)	67.2 (39)	13.8 (8)	19.0 (11)	100.0 (58)
PR (Pali)	86.1 (62)	2.8 (2)	11.1 (8)	100.0 (72)
RR (Meerut)	34.4 (31)	21.1 (19)	44.4 (40)	100.0 (90)
YY (Mysore)	7.3 (4)	41.8 (23)	50.9 (28)	100.0 (55)
YK (Mysore)	5.9 (1)	41.2 (7)	52.9 (9)	100.0 (17)
RA (Meerut)	44.7 (17)	34.2 (13)	21.0 (8)	100.0 (38)
SB (Karnal)	16.7 (3)	61.1 (11)	22.2 (2)	100.0 (18)
HD (Nadia)	88.9 (48)	3.7 (2)	7.4 (4)	100.0 (54)
SG (Sabark)	78.6 (11)	14.3 (2)	7.1 (1)	100.0 (14)
AK (24 Parg)	83.3 (35)	9.5 (4)	7.1 (3)	100.0 (42)
PP (Pali)	95.2 (20)	0.0 (0)	4.8 (1)	100.0 (21)
KS (Hardoi)	66.7 (24)	0.0 (0)	33.3 (12)	100.0 (36)
Total	53.2 (527)	24.1 (239)	22.6 (224)	100.0 (990)

NB : The figures in bracket represent the frequencies in all the tables.

Source : Banerji, D., *Poverty, Class and Health Culture in India*, p. 212.

villages. The predominant feature of this distribution is that a large majority of the people are living under very unsatisfactory conditions. It is, however, remarkable that there are wide differences in the distribution of the type of houses the different villages.

The study of nineteen villages also gives data on availability of latrines (Table 18.2). An overwhelming percentage of the houses in the study villages has no latrine. It will, however, be not entirely correct to see these findings in terms of hygiene and in terms of inconvenience caused to women folk. For example, availability of a badly maintained scavenging (bucket) type of latrine, cleaned once in three to six months, certainly does not materially improve the hygiene of the residents; nor does it even add to the comfort or convenience of the women folk of the household.

Absence of latrines is to be seen in the context of the overall setting of the village—its layout, size and nature of construction and design of houses, size and quality of the roads and lanes, source of water, both for drinking and for other purposes and drainage of waste water, disposal of human and animal waste and household garbage, etc. While latrines will be of considerable importance in an integrated plan to improve the ecological con-

TABLE 18.2 : Availability of Latrine

Villages	Variables				Total
	Scavenging	Flush	Borehole	None	
AA (24-Parg)	5.1 (2)	2.6 (1)	5.1 (2)	87.2 (34)	100.0 (59)
HB (Nadia)	26.3 (21)	8.8 (7)	10.0 (8)	55.6 (44)	100.0 (80)
CC (Palghat)	10.0 (5)	0.0 (0)	0.0 (0)	99.0 (45)	100.0 (50)
JJ (Bangalore)	0.0 (0)	1.3 (1)	8.8 (7)	90.0 (72)	100.0 (80)
KK (Hardoi)	21.4 (15)	1.4 (1)	0.0 (0)	77.1 (54)	100.0 (70)
PZ (Palghat)	8.8 (5)	1.8 (1)	0.0 (0)	89.5 (51)	100.0 (57)
TP (Trichy)	7.2 (7)	0.0 (0)	0.0 (0)	92.8 (90)	100.0 (97)
SR (Sabark)	0.0 (0)	3.5 (2)	0.0 (0)	96.5 (55)	100.0 (57)
PR (Pali)	2.8 (2)	0.0 (0)	0.0 (0)	97.2 (70)	100.0 (72)
RR (Meerut)	7.8 (7)	7.8 (7)	2.2 (2)	82.2 (74)	100.0 (90)
YY (Mysore)	0.0 (0)	14.6 (8)	0.0 (0)	85.5 (47)	100.0 (55)
YK (Mysore)	0.0 (0)	0.0 (0)	0.0 (0)	100.0 (17)	100.0 (17)
RA (Meerut)	2.6 (1)	0.0 (0)	0.0 (0)	97.4 (37)	100.0 (38)
SB (Karnal)	5.6 (1)	0.0 (0)	0.0 (0)	94.4 (17)	100.0 (18)
HD (Nadia)	3.7 (2)	0.0 (0)	0.0 (0)	96.3 (52)	100.0 (54)
SG (Sabark)	0.0 (0)	0.0 (0)	0.0 (0)	100.0 (14)	100.0 (14)
AK (24-Parg)	0.0 (0)	2.4 (1)	4.9 (2)	92.7 (38)	100.0 (41)
PP (Pali)	0.0 (0)	0.0 (0)	0.0 (0)	100.0 (21)	100.0 (21)
KS (Hardoi)	2.8 (1)	0.0 (0)	0.0 (0)	97.2 (35)	100.0 (36)
Total	7.0 (69)	2.9 (29)	2.1 (21)	87.0 (867)	100.0 (986)

Source : Banerji, D., *Poverty, Class and Health Culture in India*, p. 233.

ditions of a village, mere setting up of latrines without improving other environmental conditions will have at most a marginal influence in improving the ecology of the village. It is significant that the only two villages among those studied which have any sizeable proportion of latrines are Haringhata in West Bengal and Kachhona in Uttar Pradesh. An important consideration in both these villages is that many of the villagers have set up latrines because, on their own, they had felt the need, and not as a result of 'education and motivation' of the sanitary staff or health educators. The motive force in either case appears to arise from certain social and economical conditions. A large number of residents in Haringhata are employed in the nearby Haringhata Dairy Farm. Similarly, Kachhona happens to be a very substantial market village of the region. And many of the traders found it convenient to have latrines in their own spacious brick built houses.

The case of piped water supply to the village Pullambadi provides interesting data on another aspect of promotion of environmental sanitation (Banerji 1982a : 69-71). It was the only village among the nineteen villages studied which had a piped water supply system. However, the poorer sections of the village population were given proportionately fewer taps to get their supply. These taps were also located at the tail end of the system and, therefore, had much poorer outflow. As these communities were not allowed to draw water from other taps, there were even longer queues at these leading to frequent quarrels and fights. These taps were also the first to go dry when the overall supply was limited or stopped (due to electricity failure, for instance) and people had to get water from old wells which had till then been lying unused and uncared for, thus exposing the villagers to even greater health hazards. Establishment of community piped water system in this village often led to exposure to greater health hazards than before and also generated increased social tensions among the poor and the weak.

### **COMMUNITY PARTICIPATION IN ENVIRONMENTAL SANITATION PROGRAMMES**

Undoubtedly, extremely unfavourable ecological conditions have fallouts in the social and cultural fields. Such conditions are not congenial for promotion of community action to minimise at least some of the deleterious consequences of ecological deterioration. However, precisely for these reasons, for any action programme to be effective, it is essential to create situations in which it will nevertheless be possible to mobilise community efforts to create better environmental conditions. Formulation of an appropriate plan of action, which very carefully takes into account the felt

needs of the people, which embodies less expensive technologies that are in tune with local social and cultural conditions (Banerji 1982b), provides the key to the creation of suitable conditions for the participation of the community in such efforts.

Inadequate understanding of the very complicated ecological issues involved in the problem of sanitation has led to the failure of the approaches adopted in the past, despite considerable investment of resources. According to the data available at present, even in bare statistical terms, very much remains to be done (ICSSR—ICMR 1981 : 32). The picture in 1980, after 35 years of work, was as follows:

	<i>Per cent Age of Population Served</i>
	<i>Total</i>
Urban water supply	82
Rural water supply	33
Urban sewerage system	27
Rural latrines	2

The message is quite clear. The approach has to be qualitatively different. Efforts to substantially improve environmental conditions can be developed effectively only when they form a component of a broad-based strategy for a multifaceted effort to overcome the conditions which keep large sections of populations in dire economic want. Failing this, one can expect success only here and there as the result of dedicated work by certain organisations but no large scale transformation. The work of the Sulabh Sauchalaya Sansthan in the cities of Patna and Ranchi and similar efforts now being made in some areas in Tamil Nadu and Gujarat may be cited as examples (ICSSR—ICMR 1981 : 56-57). But these very few exceptions only prove the rule just as the special situations prevailing in Haringhata and Kachhona villages cited earlier to prove the rule about environmental conditions in rural India.

The approach should not be a technocentric one. It should be one of harnessing technology to deal with a problem which arises essentially from a relationship between a community and the entire environment within which it lives, including its social, cultural and economic dimensions. A community should not be made to participate in a technologically determined programme. Rather, active steps should be taken to create conditions which generate motivations within the community so that it is actively involved in all the stages of formulation of policies, plans and programmes, and in all the phases of their implementation and evaluation,

## PLANNING

According to the Planning Commission (Government of India 1981b : 397), although a National Water Supply Programme was launched in 1954, during the very First Five Year Plan, and progressively larger allocations were made for safe water supply and sanitation in the succeeding Five Year Plans, the progress made so far can hardly be termed satisfactory. The available statistics present a distressing picture, especially of the rural areas. In March 1980, about 200,000 villages in the country with a population of some 160 million were yet to be provided with potable water supply facilities. The situation in the urban areas is relatively better but here too, particularly in the hundreds of smaller towns, water supply and sanitation arrangements are far from adequate. The statistics in fact do not fully portray the hardship and inconvenience that is experienced by the poor, particularly women and children, in areas where water is scarce, inadequate or polluted.

During period 1951-74, the total investment made by the central and state governments for providing water supply and sanitation facilities was of the order of Rs. 8550 million, over 65 per cent of it in the urban areas. During this period, the water supply programme was not given a high enough priority in the national planning process. The constraint of resources in the states and the competing demands of programmes in other sectors compelled the state and local governments to give relatively low priority to water supply in the allocation of funds. There was also at the same time insufficient appreciation of the magnitude and complexity of the problem.

The importance of providing safe water supply and sanitation as a basic minimum need, without meeting which no improvement in the living standards of the people can take place, was reiterated in the Draft Fifth Five Year Plan (1974-79), which included drinking water for villages in its Minimum Needs Programme. The Draft Fifth Five Year Plan declared that adequate resources would be allocated for the programme, irrespective of the resources constraints of individual states. The objective of the Minimum Needs Programme concerning drinking water was to provide the facility to all villages suffering from chronic scarcity or having unsafe sources of water. The Plan provided for an expenditure of Rs. 3810 million on rural water supply and sanitation compared to a total of Rs. 2890 million provided in all the previous Plans (Government of India 1981b: 397).

The Sixth Five Year Plan was launched at a time of increasing awareness, both nationally and internationally, of the importance of safe drinking water supply in sustaining the processes of economic and human resource development and improving the quality of our environment. The global concern with the need to provide drinking water and elementary sanitation to the people in developing countries led to the convening of the United

Nations Water Conference at Mar del Plata in 1977. It called for a ten-year campaign by member countries and international agencies to provide access to safe water and sanitation for all people. The decade 1981-90 has been designated as the International Drinking Water Supply and Sanitation Decade. India, as a signatory to the Resolution, has pledged its full support to the action plan set out. Table 18.3 gives the Sixth Plan out-lays.

TABLE 18.3 : Outlays for Water Supply and Sanitation Sector

(in Rs. '00,00,000)

Scheme	Fifth Plan (1974-79)	Sixth Plan (1980-85)
1. State/U.T. Plans		
(a) Rural Water Supply and Sanitation of M.N.P.	381.24 (329.27)	1554.24 (1407.11)
(b) Urban Water Supply and Sanitation	539.17	1753.56
Total : State Plan	920.41	3307.80
2. Central Plan		
(a) Central Sector :		
(i) Prevention and Control of Water and Air pollution	0.80	12.00
(ii) Other programmes	0.93	2.22
(b) Centrally Sponsored Schemes :		
(i) Accelerated Rural Water Supply Programme	100.00*	600.00
(ii) Other programmes	8.54	—
Total : Central Plan	110.27	614.22
Grand Total	1030.68	3922.02

\*Outlay provided subsequent to the finalisation of the Fifth Plan.

Source : Sixth Five Year Plan, 1980-85, p. 401.

## THE RURAL SECTOR

Until the Third Five Year Plan, drinking water supply in the rural areas was a component of the amenities scheme of the Community Development Programme. Besides, the local development works programme, taken up through voluntary labour participation, and the programme of welfare of backward classes also included schemes relating to water supply. These efforts were supplemented by the Ministry of Health. During the Third Five Year Plan, Special Investigation Divisions were established in most

states to make an assessment of the water supply situation, especially in areas of acute scarcity and those endemic to water borne diseases. In the Fourth Five Year Plan, 1969-74, the bulk of the provision for rural water supply was allocated for these areas. The programme gained further momentum during the Fifth Five Year Plan which made an allocation of Rs 3810 million in the State Plans, including Rs 3290 million under the Minimum Needs Programme mentioned earlier. In addition, a provision of Rs 1000 million was made in the Central Sector under the Accelerated Rural Water Supply Scheme.

Preliminary data collected in 1964-65 indicated that about two-thirds of the rural population lived in areas where it was relatively easy to provide safe drinking water from local sources like wells. The remaining one-third lived in villages which suffered from water scarcity and where engineering skills, extra financial outlays, and time consuming works would be called for. These villages were categorised as follows:

- (a) Those which do not have an assured source of drinking water within a reasonable distance (of say 1.6 km);
- (b) Those which are endemic to diseases like cholera, guinea-worm etc.; and
- (c) Those where the available water has an excess of salinity, iron, fluorides or other toxic elements.

The first category were designated scarcity and difficulty villages and the other two as health problem villages.

In 1971-72 a total of 152,000 villages in the country were identified as being without a safe and assured source of drinking water. Of these, 90,000 were classified as scarcity and difficult villages and 62,000 as health problem villages. In addition, it was estimated that there were 185,000 villages with a population of 160 million which were served only by simple wells.

However, various state governments have recently reported that the earlier survey did not adequately represent the magnitude of the problem, partly because it was not complete and partly because the drought conditions in subsequent years had brought to light fresh areas which were vulnerable to water scarcity. The latest data received from the state governments show that there are at present (1980) about 190,000 villages in the country which need to be provided water supply facilities on a priority basis.

These figures represent only the first step in the evaluation of the problem. The type of water supply system required varies from state to state and often from one area to another within a state.

During the Sixth Five Year Plan the effort was to cover all the problem villages of the three categories mentioned earlier. With the financial provi-

sions made in the Plan, it should be possible to achieve this objective, except in certain difficult areas in the hill and desert regions where, because of physical constraints, the programme may take longer to be completed. The approach in all the areas was to provide at least one source of safe drinking water in each village identified as a scarcity or health problem village.

Apart from the problem villages to be covered under the Minimum Needs Programme, there were other villages where existing sources of water supply may need improvement or augmentation. The Sixth Plan provision is Rs 21,350 millions, Rs 6,000 millions in the Central Sector and Rs 15,350 millions in the state/union territory plans.

According to the Sixth Plan document (Government of India 1981b: 399), poor maintenance of existing water supply systems in the rural areas continues to be a source of concern in most states. Lack of involvement of the local community in the maintenance arrangements, shortage of staff and inadequate funds for maintenance are the main reasons why the existing water supply schemes have failed to yield the expected benefits.

## SOCIAL AND EPIDEMIOLOGICAL ISSUES

Water supply programmes involve considerable investment of resources. Allocation of investment in such programmes is determined by consideration of three major objectives:

1. Improving access to water and the quantum of supply for drinking, cooking, washing, etc.
2. Offering water to people which is perceived by them as cleaner or a esthetically better than they have been getting earlier.
3. Reducing incidence of water-borne diseases in the community.

Much remains to be done in determining a rational basis for making allocations for rural water supply programmes. It has not been possible so far to relate allocations for rural (or for that matter urban) water supply programmes with those for other sectors of social and economic development. More often than not, allocations are made on an *ad hoc* basis. The needs of individual communities are not determined on the basis of the weightage given by them to each of the three objectives mentioned earlier. However, even if the felt needs are not taken account of, one has to contend with important sociological and epidemiological issues related to community water supply. There are briefly discussed below.

### **Sociological Issues**

It is generally assumed that whatever water supply system is offered to a community by an outside agency is a good one. So confident are the 'benefactors' of the merits of their programme that they often neglect even to study the existing system which they seek to replace. To make matter worse, they employ 'educators' to condition people into accepting what is handed down to them. Improvement of health is a major argument of such educators in favour of acceptance of a new water supply scheme. Often this argument has substance, but there are problems in getting acceptance of a scheme by the community. Sometimes, even if there is no actual improvement in health status, people accept the new scheme on the basis of the 'education' they have undergone. Sometimes, however, people stick to the old system because they have problems with the new one. For instance, in the course of our study of nineteen villages (Banerji 1982a), it was observed that many villagers did not like the 'taste' of the food prepared with the water from the shallow tubewells provided and used these only for drawing drinking water and continued to use water from the village ponds for cooking and washing utensils and clothes. The lessons are that:

1. there ought to have been studies of the social perceptions and social values of the community about water use before planning a new water supply scheme; and
2. before people are 'educated' into giving up pond water, or compelled to do so, the agency concerned should have marshalled convincing data to demonstrate the superiority of water from shallow tubewells.

Another set of social issues relates to the distribution of water outlets (taps), the quantity of the water supplied and regularity of supply. In the sharply stratified rural society, as in the case of Pullambadi mentioned a little earlier, the lower classes often get fewer taps, often at the far end of the supply system.

### **Epidemiological Issues**

Public health engineers are familiar with the ecological consequences of not providing an adequate drainage system along with potable water supply. However, how this affects health has not been adequately studied by epidemiologists.

When even giant municipal corporations of the metropolitan cities of India are unable to provide protected water supply in adequate quantity to

the cities, it is reasonable to assume that the conditions are much worse when it comes to supplying protected water to rural populations. Further, even if it is assumed that the water supplied by a rural system is 'protected', the epidemiological impact of such schemes on incidence of water-borne diseases of various kinds has not been systematically studied. For example, how far has the provision of protected water supply to urban slum populations influenced the incidence of water-borne diseases? Even if a villager gets an adequate amount of protected water supply, how much does that influence disease incidence in an environment of filth, flies and insects, and under appalling conditions of personal hygiene and housing? The matter becomes even more complicated when the water supplied is only 'partially protected' or when the quantity supplied is limited and supply is erratic.

In most cases, epidemiologists have not studied such questions. Yet, huge investments are being made on water supply schemes of various kinds. It must, however, be emphasised that it is not being argued that there should be on rural water supply programmes. What is being argued is that allocations for water supply schemes should be made on the basis of better epidemiological analysis and forecasts, on the basis of a better understanding of sociological issues and on the basis of a better appreciation of the health outputs on the investment and output in terms of meeting the needs of a community for water for various domestic purposes.

## **RURAL SANITATION**

So far little attention has been paid to the problem of rural sanitation except for some pilot projects in a few states. It is estimated by the Planning Commission that almost 98 per cent of rural households do not have latrines (Government of India 1981b: 399). Keeping in view the present position of rural sanitation and the limitation of budgetary resources, the Sixth Plan estimates (Government of India 1981b: 399) that sanitation facilities can be provided to only 25 per cent of the rural population by the end of the eighties.

## **THE URBAN SECTOR**

### **Urban Water Supply**

While towns with nearly 84 per cent of the country's urban population have been provided with drinking water facilities, the population coverage is partial and uneven. Even in the larger cities many of the newer settle-

ments and areas inhabited by the economically weaker sections continue to be without adequate water supply. Further, out of the 1027 towns still lacking drinking water supply facilities, as many as 902 belong to the group of towns which have a population of less than 20,000. It is in these smaller towns that the population served by drinking water facilities is grossly inadequate. In the past, the bulk of plan investments in urban water supply has gone to the larger cities and the smaller towns have, in consequence, continued to suffer.

### **Sewerage Disposal in Cities**

The position in regard to urban sewerage and sanitation is even less satisfactory. Out of the 3,119 towns, only 198 have been provided with sewerage facilities. Even in respect of Class I cities having a population of 100,000 and above, only 46 per cent have arrangements for sewerage and sewage treatment. The overall population coverage in the urban areas is about 20 per cent (Government of India: 400).

A survey conducted by the National Sample Survey Organisation in 1973-74, revealed that one-third of the urban households had no latrines whatsoever and that seven million households, out of a total of 40 million, use open ground for defecation. Another one-third had the unsanitary basket service. About 25 per cent of the night soil remains uncollected because of transportation problems. Trenching grounds are ill-managed and the refuse deposited pollutes the soil and water sources around it and breeds flies (ICSSR-ICMR 1981: 60).

### **Integrated Development**

Water supply and sewerage programmes in the urban areas should be considered an integral part of urban development. While the pressing need for providing adequate water supply and sewerage facilities in the larger cities, especially in the high density areas populated by the low income groups and economically weaker sections, must continue to receive priority, greater attention needs to be given to the requirements of smaller and medium sized towns which have been neglected in the past. The Sixth Plan lays considerable emphasis on the integrated development of small and medium sized towns and the environmental improvement of slums. Water supply and sewerage schemes have to be dovetailed into this programme. Town and country planning organisations in the states, which have the responsibility of preparing master plans for these areas, have to ensure that adequate provision is made for water supply and sewerage facilities in the formulation and implementation of these plans.

As in the rural areas, the maintenance of urban water supply schemes,

particularly in the small municipalities, is unsatisfactory. The poor capacity of local bodies to levy water rates and the inability of state governments to provide adequate non-plan grants for maintenance purposes, are partly to blame. Urban water supply and sewerage schemes are highly capital intensive and there is a strong case for recovery from the beneficiaries of at least the interest and operation and maintenance charges to start with.

### **Disposal of Solid Waste**

Systems for disposal of solid wastes in the urban areas have also shown poor progress over the last thirty years. This is mainly because of shortage of funds, inadequate transport facilities, bad management and lack of public cooperation. One of the major achievements has been the introduction of a scheme to assist municipalities to produce compost from wastes. About 5 million tonnes of compost are produced annually at present, as against a potential 11 million. This programme may need an annual outlay of Rs 4,030 million (ICSSR-ICMR 1981: 57).

### **Housing**

There is a close relationship between housing and health. At present, the shortage of houses is estimated at about 30 million and it is continually growing. Though a large programme of housing has been developed in the public sector with organisations like the Housing and Urban Development Corporation, State Housing Boards, Apex Housing Corporations, Urban Development Authorities and Cooperative Societies, it has made little impact on the overall problem, especially on the housing situation in rural areas and urban slums (ICSSR-ICMR 1981: 61-62) (see also Table 18.1).

### **Pollution**

Pollution of soil, water and air as a consequence of urbanisation, industrialisation and population growth have become serious health hazards. The increasing incidence of pollution of food and water through the large scale use of chemical fertilisers and pesticides has to be dealt with on a large scale by their replacement with biodegradable organic manures. Water pollution caused by industrial and municipal discharges has assumed serious proportions in some urban and industrial zones. For instance, the Yamuna is polluted at Delhi and Agra, the Ganga at Kanpur, the Kaveri near Erode and Mettur, the Hooghly near Calcutta, the Mahe in the Baroda region, the Thane-Kalyan creek in Bombay and the Damodar and its tributaries near the Asansol Durgapur belt. Some of the toxicants can cause massive destruction of fauna and flora if they are allowed to be

discharged into the water courses without appropriate treatment. Among the offending industries are paper and pulp, textiles, distilleries, pharmaceuticals, fertilizers, thermal power plants and oil and petrochemicals. However, it should be recognised that the main culprits are the municipalities and local bodies which are responsible for pollution of water sources with sewage (ICSSR-ICMR 1981: 63).

### **Environmental Conditions in Industry**

Ill-health caused by pollution at the work place is another aspect which has to be dealt with in a systematic way. In the mining, quarrying and mineral processing industries, about 21 million workers are exposed to silica dust and the incidence of silicosis is high. In industries using chemicals, it is particularly important to safeguard workers from occupational diseases (ICSSR-ICMR 1981: 65).

Increasing work-loads and other work conditions have led, apart from considerable mental and physical fatigue and general deterioration in health, to a higher rate of accidents, drunkennes, addiction to drugs, etc. The National Commission on Labour (1969) found that, even after twenty years of independence, health facilities and safety measures in most factories were very unsatisfactory. During the period 1961-67, as many as 3,860 lives were lost due to accidents in factories and approximately 1.3 million persons suffered from disabling injuries and occupational diseases. Safety measures were found inadequate and safety equipment badly designed. There was also no system of universal accident insurance for workers (ICSSR-ICMR 1981: 65).

The Bhopal Tragedy dramatically revealed the tip of the massive iceberg of industrial and other environmental hazards that are being inflicted on the oppressed people of this country. In the middle of that winter night, the pesticide plant of the Union Carbide took the form of a monster and literally gassed out hundredss of thousands of human beings from their homes like pests. The Union Government enacted a macabre drama called Operation Faith; greedy 'ambulance chasers' came rushing from the US to get buisness; some scientists joined together to form an empire for laboratory research (Medico Friend Circle 1985; Banerji 1985b). More recently (September 1985), there was one more large scale chlorine gas leakage in Bombay city itself and once again scientists captured headlines for their valient acts of neutralising the gas. Those who control power have ensured once again that 'buisness' goes on as usual, for the buisness of the government is buisness and for this lives of the poor are expandable.

## INTERSECTORAL ACTION FOR HEALTH : ANALYSIS OF THE CASE OF KERALA

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HALFDAN MAHLER, Director-General, WHO, has underlined two major components of the Alma Ata Declaration (Mahler 1982): its stress on the right to health of *all* citizens of the world; and its insistence that health for all is a *social target*, not only a health goal. Health is thus not the responsibility solely of those who are directly engaged in health work. It is also the concern of all for whom development is the goal. While ministries of health may have coordinating roles, a large part of the activities which influence health are outside their jurisdiction. Sectors such as education, agriculture, water resources, housing, transportation and industry were cited as examples. Mahler asserted that health improvement can only be achieved through a multisectoral approach in which women and men, and not the health problems, become the pivot.

In this intersectoral context, health becomes almost synonymous with quality of life. Because of its wide-ranging dimensions, promotion of health becomes largely a political issue. Political decisions taken at various levels determine actions in various sectors related to health and, taken together, they determine the quality of life of the population. Recognising this, Mahler had declared that 'health is politics' (Mahler 1979).

As pointed out in Chapters 2 and 3, these inter-sectoral and political dimensions of health were recognised in India at a very early stage of the national movement. Indeed, India's Community Development Programme launched in 1952 is a classic example of the intersectoral approach to health. The Primary Health Centre, which was meant to provide promotive, preventive, rehabilitative and curative services in an integrated form to the entire population covered by it, was conceived as a part of a wider package to bring about all-round improvement in the living conditions of the people. The Community Development Programme included such fields

as water supply and environmental sanitation, nutrition, agriculture, cottage industry, primary education, democratisation through institutions of local self-government (panchayats), employment generation, and construction of roads. The Minimum Needs Programme of the Fifth Five Year Plan and the subsequent Revised Minimum Needs Programme and the current Twenty Point Programme, are all efforts towards developing an inter-sectoral approach, which is specifically directed to the currently underserved, weaker sections of the population.

However, the very commitment to the intersectoral approach has brought into focus major difficulties in the political process necessary for implementing this approach.

## METHODOLOGY FOR PROMOTING INTERSECTORAL ACTION

A study of intersectoral action for health, like the study of all health promotion activities, requires an epidemiological approach. This involves studying health problems in the *entire* population within a framework of time. Such an approach requires an understanding of:

- (a) the causes, diagnosis, prognosis, treatment and prevention of each of the health problems;
- (b) the size and distribution of health problems within a population and how they are influenced by interaction of factors related to the :
  - (i) the host,
  - (ii) the environment, and
  - (iii) the causative agents; and
- (c) how complex changes in host, environment and agent factors over a time period are linked with the natural history of each of the major health problems of the community.

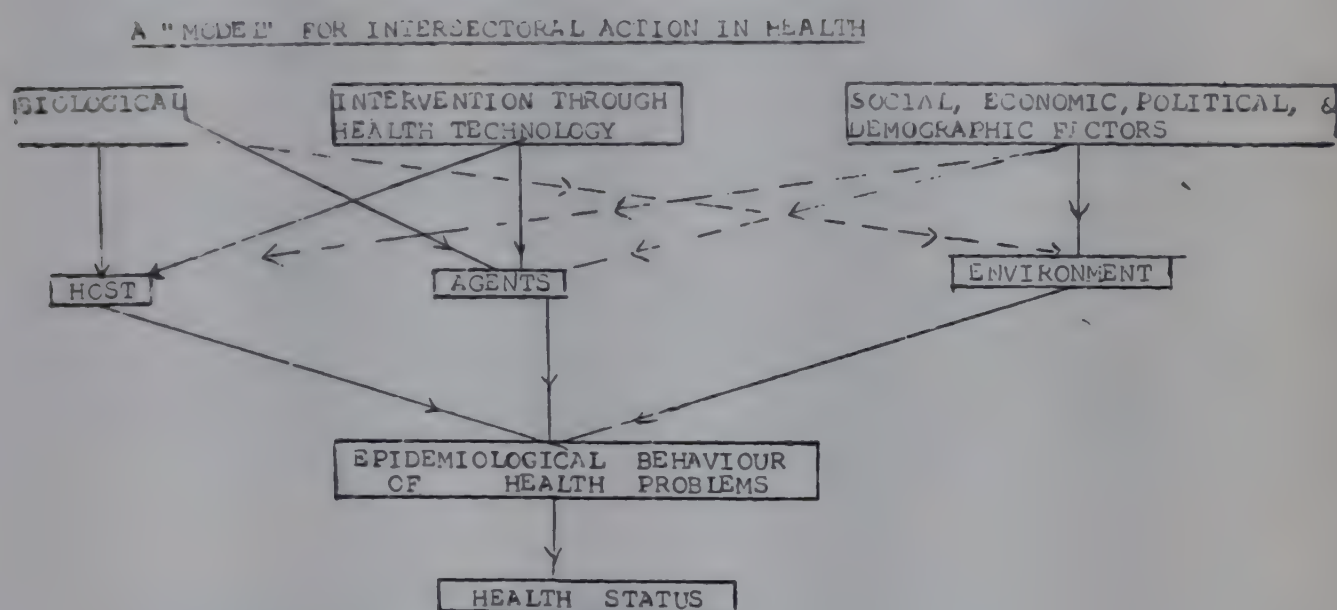
There are also three major categories of factors which determine the dynamics of interaction between the host, the environment and the agents. These are:

- (a) biological factors;
- (b) social, cultural, economic, political and demographic factors; and
- (c) factors in the form of active interventions which are specifically designed to change the epidemiological behaviour of the health problems through the application of medical technology.

An analysis of intersectoral action in health thus requires consideration of a very wide range of very complex sets of variables which are closely interlinked with one another. For this purpose, it is necessary to:

- (a) mobilise data from a wide range of disciplines;
- (b) have considerable interdisciplinary competence and imagination to knit together data and devise the overall 'model' of the system as a guide for intersectoral action; and
- (c) have considerable interdisciplinary insights to analyse the 'model'.

An outline of a possible 'model' is given below :



In India, it would, be patently unrealistic to expect to get the needed data to work out such a 'model' in detail. Even countries with the most advanced information systems would find it difficult. Precisely for this reason, it is essential to mobilise as much data as possible and not succumb to the temptation of finding a simplistic 'solution' to a problem which is essentially a highly complex one.

Under such conditions, however, scholars have to make 'intelligent guesses' to fill in vital gaps in the data before they can proceed with analysis and interpretation. However, the temptation to rush to conclusions that in Kerala 'social' factors like women's education, literacy and limited land reforms, rather than economic factors like income and its distribution, explain dramatic changes in demographic profiles, needs to be resisted (Centre for Development Studies 1975; Eckholm 1977).

Even under these difficult conditions, it is possible to develop very valuable insights into the epidemiological behaviour of health problems, as the examples discussed below will show. Indian Census data for 1931, 1941

and 1951 (Table 8.4) show that there has been a sharp increase in the expectancy of life at birth and a fall in birth rates among all strata of the population, even though there are reasonably reliable data to show that during this period there has not been any significant increase in the levels of nutrition, access to health services and standards of living, particularly among the lower 80 per cent (Banerji 1977a; ICSSR-ICMR 1981: 3-10). What then accounts for the demographic findings? What are the biological implications of the fall in birth rates without concurrent improvement in the standard of living, nutrition or access to health services?

How can one account for the spectacular disappearance of cases of tertiary syphilis from hospitals in India even though no specific anti-syphilis campaign has ever been launched here? Similarly, why is it that there has been such a sharp decline in the number of cases of puerperal sepsis in dispensaries and hospitals in India, even though it is widely admitted (Government of India 1981b : 31) that as many as two-thirds of the mothers do not have access even to a trained midwife?

What accounts for the sustained increase in India in the age of tuberculosis patients covered by surveys (Indian Council of Medical Research 1959)? Why is the disease becoming less infectious (Banerji 1971b)? There are indeed indications of a decline in the incidence of the disease, even though the tuberculosis programme has not touched more than a fringe of the cases (Banerji 1971b; Gothi 1976).

## **KERALA—A CASE STUDY OF INTERSECTORAL ACTION**

Health and family welfare in Kerala have received a great deal of attention both within the country (Panikar 1975; Panikar et al. 1978; Panikar 1979) and abroad (Echolm 1977; Banerji 1978e). However, very much more remains to be done to develop an epidemiological approach to the study of health problems in that state. Biological factors, which particularly influence the host and agent factors, have not received as much attention as they deserve.

Much more groundwork has to be done before it can be claimed that, in the pre-independence period, the health services were responsible for the decline in the incidence of major health problems in Kerala. What was the nature of the health services organisation and its management? How successfully have promotive, preventive, diagnostic and treatment and rehabilitatory efforts been integrated? How effective have been the technologies that were chosen for making these efforts? What was the population coverage? What was the extent of the outreach of these services to the underprivileged and the underserved—the serfs of pre-independence Kerala?

There are enormous areas of the study for which data are simply not available. Further, there is considerable scope for mobilising efforts to retrieve data that are already available but not easily accessible. Again, as much of the available data are not of very high quality in terms of reliability, it requires considerable skill to sift them and make use of some of them for interpretation and for drawing conclusions. Considerable skill is also required to make 'intelligent guesses' to fill in the vital gaps in the process of hypothesis formulation and in suggesting correlations.

Particularly because of enthusiasm among international organisations to find the 'right' explanation for certain very significant demographic trends, there is need to exercise considerable caution in drawing cause-effect relationship. Such relationships are not as simple as they appear at first sight and much deeper study is needed to work out the complex dimensions.

There is also considerable scope for conceptualising intersectoral actions for health as a complex system on the basis of blending of relevant information drawn from a very wide range of disciplines. Competence to develop such a 'systems view' of the subject is the key to the study of intersectoral action. The activities mentioned in the preceding paragraphs are essential for building the system. These are the building materials but interdisciplinary competence will come from the architect, the engineer, the mason and the labourers, who work together to give shape to the building.

Turning the issue the other way round, it is indeed difficult to visualise growth in the health services without growth in other social and economic sectors, and *vice-versa*. Intersectoral action for health shows how, on the basis of sound epidemiological considerations, it is possible to:

- (a) arrive at a proper *balance* in the growth of health services and other social and economic sectors;
- (b) take actions in social and economic sectors specifically to improve the health status of a population; and
- (c) take action in the health service sector to strengthen the social and economic sectors.

The Kerala case does not provide strong enough evidence to prove that the remarkable demographic changes in Kerala have taken place mainly due to the very limited changes in the social and economic sectors; the case for correlating these changes with intersectoral action for health is weaker still. It has been mentioned that there are pronounced regional and social-class variations in Kerala (Panikar 1975). Perhaps a study of correlation of demographic changes with different degrees of social and economic changes obtaining in different regions or strata could have helped in clarifying the issue.

### Health Status in Kerala in the Intersectoral Context

It is important to take note of features of Kerala which single it out. This phenomenon needs attention, because it has relevance much beyond the state itself.

As noted earlier, in terms of infant mortality rates and crude birth and death rates, Kerala is way ahead of other states (Table 9.13). There are other remarkable features concerning Kerala which make it distinctive. A high rate of literacy as compared to other states, particularly a very high rates of female literacy, reasonably effective implementation of measures for land reforms, the number of females outnumbering males, the high age at marriage, an exceptionally high hospital-bed population ratio, the large number of health institutions per unit population and the extent of utilisation of these institutions by the population, and a long history of public health movement under the enlightened rule of the maharajas in the pre-independence period (Centre of Development Studies 1975), are some examples.

If female literacy is indeed correlated with the very promising demographic profile, there should be a high correlation in regions with higher female literacy and a lower correlation in regions with lower female literacy. Similarly, in the case of land reforms, it is often overlooked that the land reforms did not materially affect the landless labourers, particularly the Harijans (Centre of Development Studies 1975; Banerji 1982a: 178-81). How can the land reforms then explain the demographic behaviour of these sections, who form a substantial proportion of the population? While it might be true that, compared to the erstwhile British India, the health service system during the days of the maharajas was superior, it is, however, quite another issue to assert that the enlightened policies of the maharajas were so good that they provided large enough a coverage to make an epidemiological impact, the extensive prevalence of serfdom and acute class stratification notwithstanding. Also, while stressing that Kerala is the foremost among the states in terms of bed population ratio, the health-institution population ratio and utilisation of institutions, no effort has been made to examine the *quality* of these institutions nor has it been noted that, even if they were of very high quality, they were curative nature and, therefore, could not account for the dramatic change in the demographic profile of Kerala.

Perhaps the most disturbing shortcoming in attempts at analysis of the current status of health in Kerala in an intersectoral context is the tendency to gloss over many other very important variables which tend to call into question the correlations which are built around issues like high female literacy, land reforms, the enlightened rule of the maharajas, and the extensive network of curative health institutions. What happens to the suckling child who is left behind because the mother has to rush to work

to earn wages during the agricultural season? How does this affect the health of the children? Why don't these children in Kerala die at the same rate as they do, say, in Uttar Pradesh? Purely in economic terms and in terms of nutrition, Kerala certainly does not occupy a very high position among the states of the Union. Then how is it that, despite such a high prevalence of undernutrition and malnutrition and unemployment, Kerala has made so much progress in achieving demographic goals? As elsewhere in the country, in Kerala too, an overwhelmingly large proportion of the population does not enjoy even the most elementary facilities in the form of environmental sanitation, including access to sanitary latrines and potable drinking water.

It has to be noted that the demographic changes have taken place *in spite* of certain environmental conditions which, by any standard, are extremely unfavourable to health. Even considering only the general health service system, Kerala has the unenviable distinction of being the only state in India where the deans of medical colleges report direct to the secretary to the department of health and are, in this way, in a position to obtain allocations for their institutions, often quite independently of the requirements of the rest of the health service system. Kerala has also not abolished private practice by PHC doctors. Again, taking such routine criteria as coverage of tuberculosis patients who are actively seeking treatment in health institutions, degree of immunisation coverage of the population, and maternal and child health service coverage provided by ANMs/Female MPWs, Kerala does not stand out as sharply as it does in terms of demographic indices.

Consideration of intersectoral action for health raises certain issues which are even more important. Even if it is presumed that the mortality rates in Kerala have been brought down by certain social actions, could the population of Kerala be considered healthy in terms of the wider definition of health which was been adopted to promote intersectoral action? Widespread prevalence of hunger, unemployment, and exceedingly poor sanitary conditions cannot be considered as healthy conditions under any circumstances, much less in the context of intersectoral action for health.

### **ADMINISTRATIVE LINKAGES FOR INTERSECTORAL ACTION**

The concept of intersectoral action for health calls for important changes in the organisation and management of the conventional health services so that activities in these fields are linked with those in other social and economic fields. Tarlok Singh, with his rich background in the fields of administration, planning and social action in improving the living condi-

tions of the deprived sections of the population, has examined this issue and has made the following observations (Singh 1978) :

The question of linkages between community health and other aspects of development may be seen, first, from two different ends: from the point of view of overall planning priorities at the national and state level, and from the standpoint of local communities with emphasis on their needs and their role. It is suggested that, if there is a clear understanding of the requirements and the possibilities at these two points, and institutional arrangements are in harmony with them, it will become much easier to ensure the precise linkages needed at intermediate points, such as the block and the primary health centre, the health sub-centre, the taluk or tahsil (where this differs from the block), and the district.

The crux of the problem in India is that the concept of rural development is still incomplete in its character. The expression 'integrated rural development' used in the Draft Plan for 1978-83 focusses primarily on agriculture and cottage and village industries. These are undoubtedly of extreme importance. Nevertheless, it is apparent that education, health and social development generally have continued, as in the past, to be treated as activities pursued much on their own without being integrated at each point, functionally and institutionally, into the total scheme of rural development.

Further, Tarlok Singh observes:

Before adequate linkages between community health and other aspects of rural development can come about, there are two major conditions to be met. The first is the recognition of interdependence which subsists in fact between different activities that bear on the well-being of the people at the community level. In other words, all agencies need to function together as partners. The work done by each has to be seen as a contribution to a larger whole and as complementing the contribution of other agencies. Except in the limited field of health and medical care, all the components of community health require the combined resources of more than one agency.

## CONCLUSION

India has a long tradition of employing an integrated approach to its health and socio-economic problems. The entire approach to planning, specifically the Community Development Programme, the Minimum Needs Programme and the Twenty Point Programme, are examples of this approach. Pro-

grammes concerning nutrition and water supply and environmental sanitation have been presented in the previous two chapters to underline this approach. It is also obvious from these presentations that it is not easy to make progress in such fields to promote intersectoral action for health.

It is against this background that the instance of Kerala has been taken up for closer examination in this chapter. There is an influential school of thought which, citing the example of Kerala, tends to believe that there is a short cut to intersectoral action for health. Their arguments have been scrutinised in detail. For making such scrutiny, an analytical framework has been developed to study the process of intersectoral action for health. Using this framework, it appears the much more work, covering much wider fields, is needed to offer even a hypothesis to explain the remarkable demographic changes in Kerala (and also in Sri Lanka). Attributing the phenomenon to some selected and, thus far uncorrelated intersectoral actions is patently untenable. Two important lessons can be drawn from the Kerala phenomenon: that it presents a very important issue in ecology of health and that, for developing intersectoral action for health, efforts have to be on much wider and much deeper scale than what has been done thus far in Kerala.



## PART SIX

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### HEALTH PLANNING AND ALTERNATIVE APPROACHES

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## POLICY FORMULATION

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REFERENCE has already been made in some detail to aspects of the Statement on National Health Policy of the Government of India (Government of India 1982a). The government deserves to be commended for its forthright disapproval of the existing situation which it says 'has been largely engendered by the almost wholesale adoption of health manpower development policies and establishment of curative centres based on Western models which are inappropriate and irrelevant to the real needs of our people and the socio-economic conditions obtaining in the country'. The existing approach is considered 'hospital-based', 'cure-oriented', serving 'upper crusts of society' in urban areas; and to have tended to 'enhance dependency' and weaken the 'community's capacity to cope with its problems'. The introduction of policy issues of such far reaching significance into the Statement tends, unwittingly, to make the numerous weaknesses and inconsistencies in the rest of the statement all the more glaring (Banerji 1983).

Surely, the present planners and administrators cannot claim to be qualitatively any different from those who were associated with development of health services in the past. Furthermore, while oft-repeated platitudes concerning nutrition, prevention of food adulteration, maintenance of the quality of drugs, water supply and sanitation, environmental protection, immunisation, maternal and child health, school health, occupational health, health education and health insurance, take up much space in the document, it contains little by way of policy guidelines to bring about the necessary basic changes in the health administrative systems at various levels to close the cultural gap between the people and providers of health services. What should be the relationship between generalists and specialists in health administration in India? What are the policy guidelines to ensure that the cadre structure, both at the Union and state levels, are developed in such a way that key positions in community health are filled

by managerial physicians who have the required interdisciplinary competence to adopt an epidemiological approach to extending the outreach of community health services to the hitherto unserved and the underserved? What are the policy guidelines to promote community self-reliance in health? Such questions are left unanswered. Obviously, the 'above-down' health education approach expounded in the Statement is not consistent with promotion of community self-reliance. The Statement has also ignored completely the vital question of regional imbalances in terms of health and health services. For instance, major policy directives are needed to deal with the alarmingly high mortality and morbidity rates in Uttar Pradesh and Bihar.

Again, at the level of specific programmes, the Statement does not provide any policy frame to overcome the obstacles even in the major health programmes which have been included in the Twenty Point Programme. Why is it that even though the felt need oriented National Tuberculosis Programme has been in operation for over two decades, more than 80 per cent of infectious tuberculosis patients are still being turned back at various health institutions with nothing more than a bottle of cough mixture? Why is it that hundreds of thousands people are getting crippled because of leprosy, even though a highly efficacious, inexpensive and nontoxic anti-leprosy drug has been available for many years? Answers to such questions do not seem find any place in the document.

In the field of medical research, the Statement rightly emphasises the need for a 'balanced development of basic, clinical and problem-oriented operational research'. However, what are the policy perspectives for attaining that balance? To what extent have findings from problems-oriented operational research contributed to the formulation of key community health programmes of the country? How did the government develop the 'model' for using the foreign aid? What have been the inputs from operational research in formulating the 'model' for Area Projects in India? Indeed, the Area Projects can be called the very embodiment of the 'more of the same approach', which is so severely criticised in the Statement on National Health Policy.

It may be recalled that, way back in 1943-46, the Bhore Committee had taken policy initiatives which were even bolder than those taken in this Statement (Chapter 2). Indeed, even earlier (1940), the National Health Sub-Committee of the National Planning Committee of the Indian National Congress (Chapter 2) had gone a step further to recommend large-scale training of workers chosen from villages to entrust people's health in people's hands.

What led these committees to take such bold policy initiatives? Why should the existing conditions be so dismal, despite the policy initiatives taken more than four decades ago? What led to the adoption of

fresh initiatives in the National Health Policy, and why is it that, along with laudable policy initiatives, the contemporary Statement makes so many obviously simplistic assumptions? What are the prospects for the implementation of the Statement on National Health Policy? Will it be followed by a more comprehensive statement on health service development or will it meet the same fate as the reports of the Bhore Committee and the National Planning Committee?

The answers to such questions are important for drawing up a strategy for the future for providing 'Health For All By A.D. 2000'. Perhaps, the Bhore Committee and the National Planning Committee came into being at a particularly fortuitous period in the history of the country: the national movement was reaching its climax; there was a crisis in the Western world in the form of World War II; and both committees had particularly dedicated and imaginative public health specialists, administrators, political leaders and social reformers as members.

The setting for the present Statement on Health Policy was quite different. Probably, it is the forces of democratisation which have impelled the government to take bold policy initiatives and the Statement is essentially a concession wrested by the people, going only some way, not all the way. Whether it meets the fate of the reports of the earlier committees or whether it will go the whole way will probably be determined by the rate of growth of democratisation in India in the coming years. In all likelihood, this time the pressure from the people will impel the leadership to go the entire way.

Even from a narrow, technical angle, a number of glaring shortcomings can be singled out in the efforts at formulation of a national health policy. Furthermore, a health policy that is merely technically adequate will have a very limited impact unless it is sustained by adequate political, social and administrative support. In the absence of corresponding actions in the latter fields, health policy statements could be used as mere eyewash to deceive the people.

On the basis of the considerations, discussed above, it is possible to identify the main issues relevant to the formulation of a national health policy for India. These are outlined in the rest of this chapter.

(1) First and foremost, there is the need for a much stronger determination at the political level to take concrete steps for the improvement of the health of the entire population of the country. In this context, the commitment of the Government of India to *Health For All Through Primary Health Care* is of prime importance. However, its call for radical change and basic shifts in organisation, management and orientation of the health services necessary to achieve this have yet to gain practical response.

(2) It must be understood that there are factors other than specific health measures which influence the health status of a population. Educa-

tion, employment, housing, food supplies, environmental conditions, social and political justice and transport and communication are examples of such other factors.

(3) Action in the above two areas should trigger a virtual revolution in the 'culture' of the health service system of the country. The main elements of such a cultural revolution will be:

- (a) A restructuring of the entire health services system by starting with what people actually do in relation to the health problems they encounter and the assessing how medical technology can be harnessed to help them to deal with these problems more effectively within the social, cultural and economic framework of their living conditions.
- (b) Deliberate efforts to bring about a shift in the allocation of health resources from the urban to the rural areas, from the curative to the preventive services, and from the privileged class to the underprivileged.
- (c) Active measures to bring about corresponding changes in the 'culture' of the institutions for education and training of the different categories of health workers so as to reorientate them suitably to the new role that they are required to play in the restructured health service system.
- (d) Corresponding changes in the administrative system of the health services. This will involve:
  - (i) restructuring the health organisation to serve the newly defined purpose;
  - (ii) bringing about greater functional integration of curative, preventive, promotive and family planning services within the organisation;
  - (iii) redefining the relationship between generalists and specialists within the health organisations;
  - (iv) reorganising the cadre structure to evolve a more effective manpower policy to service health organisations.
- (e) Research support through the promotion of suitable basic, applied and interdisciplinary research to identify more effective ways of using the available resources and improving the health status of the population.

## HEALTH PLANNING

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OVER the last thirty years 'planning' has, in the health sector in India, acquired a new and quite a novel meaning. All it implies is budgetary allocations under certain heads : hospitals and dispensaries, medical education and research, control of communicable diseases, rural health programmes, training programmes, indigenous systems of medicine and homoeopathy, and 'other programmes' (Banerji 1978c). Two other heads, namely, environmental sanitation and water-supply, and family planning, have now been taken out of the health sector. Thus health planning in the successive Five Year Plans implied no more than varying financial allocations under these heads.

The framers of the Draft Five Year Plan (Revised) for 1978-83 (of the Janata Party Government of 1977-79) saw the serious flaws in the process of health planning adopted earlier and noted (Government of India 1979a : 230) :

There is serious dissatisfaction with the existing model of medical and health care services with its emphasis on hospitals, specialities and super-specialities and highly trained doctors which gets limited in practice mostly to urban areas and which is availed of mainly by the well-to-do classes. It is also realised that it is this model which is depriving the rural areas and the poor people of the benefits of good health and medical services. Serious doubts have, therefore, been raised as to whether we did right in adopting this western model of medical services and health care whose costs go far beyond our resources, which emphasises curative rather than preventive and promotional aspects and which creates immense problems because of over-emphasis on inappropriately high level of professionalisation, institutionalisation and centralisation.

The planners also emphasised the need for evolving alternative models. But

the 'health plan' which resulted from this heart searching did not touch the 'existing model of medical and health services' which they had disapproved of so categorically—further evidence of the 'soft-state' as described by Gunnar Myrdal.

The Draft Sixth Plan of 1978-83 is also not in any way distinctive when it promises to 'provide better health and medical care to the rural areas and the poor people' and that it will not permit any 'linear expansion of curative services in urban areas based on specialities and superspecialities' (Government of India 1979a : 231). Such resolutions and determination can be traced right to the beginning of 'planned development' of health services in India, and the Sixth Plan (1980-85) of the Congress (I) Government followed the same trend (Government of India 1981b : 367-73).

For the First Plan, it was, as now, a round condemnation of the colonial Western model, a vigorous programme of social orientation of medical education through establishment of departments of preventive and social medicine and launching of the primary health centres along with the 'revolutionary' Community Development Programme on the auspicious 2nd October of 1952 (Banerji 1978e). (Significantly, the 'revolutionary' tradition is being continued—the 'revolutionary' Rural Health Scheme was launched on 2nd October of 1977). The Second Plan promised a nation-wide coverage of the rural population through primary health centres and a massive allocation to launch, with the help of the US Government and the WHO, a military style campaign to eradicate malaria once and for all by the mid-sixties. Inspired by consultants from the United States, the Third Plan saw the launching of the nation-wide extension approach to family planning as an integral part of the health services. The object was to 'educate' and 'persuade' rural populations to accept the small family norm. The plan also commended a WHO-UNICEF-backed mass campaign to eradicate smallpox from India once and for all by 1966 (Banerji 1978e). Again, with active help from the Ford Foundation, the Population Council of the USA, the World Bank and the International Monetary Fund, the United Nations Fund for Population Activities and the Swedish International Development Authority, the Fourth Plan (Banerji 1978e) pushed ahead the family planning programme with utmost vigour. The massive programme of IUD promotion, mobile sterilisation and IUD units, target-oriented, time-bound campaigns (which included allocation of family planning targets to policemen and revenue officials and performing sterilisations on railway platforms) and mass vasectomy camps, were all products of the Fourth Plan (Banerji 1971a).

The Fifth Plan had two facets : realising the failure of coercive methods, health, family planning and nutrition were made a component of the Minimum Needs Programme. Development was recognised as the best contraceptive. However, all these ideas were abandoned with the declaration

of the Emergency when pressure was exerted on people on a much more extensive scale than ever before and seven million were sterilised (Banerji 1978e). Neglect of the health programme led to a resurgence of malaria and other communicable diseases; even the pretence of looking after the health of mothers and children was given up; seriously sick patients were turned away from public hospitals because they were unable to produce the sterilisation certificates.

As discussed in Parts Two, Three and Four, virtually all the major programmes, which were launched with so much of fanfare and promise, have failed to yield the desired result. Social orientation of medical education is still a distant dream; the PHCs have failed to meet even the most pressing needs of the rural poor; the promise to eradicate malaria by the mid-sixties could not be kept and massive resources are still being allocated to 'contain malaria'; other communicable diseases are rampant and continue to cause extensive suffering among the people; and mothers and children continue to suffer very high rates of mortality and morbidity. The account of the family planning movement through the past 25 years is itself a saga of a series of very expensive failures (Banerji 1980c).

Health planning in the Draft Sixth Plan (1978-83) and the other Sixth Plan (1980-85) followed the established pattern. As it is becoming more and more difficult to obscure the increasingly unjust character of the existing health services system and, as the masses are becoming sceptical and restive about failure to redeem the promises of the country's leadership, there is increasing pressure on the political leadership to provide more tangible evidence that something substantial is proposed to be done for the people. It is in this context that, compared to the Fifth Plan, the Sixth Plan provided for a four-fold increase in the allocation for rural health from Rs. 1200 million to Rs. 4900 million, an increase in allocation for controlling communicable diseases from Rs. 2650.9 million to Rs. 4500 million, with only marginal increase for hospitals and dispensaries, medical education and research, and training programmes from Rs. 2439.1 million to Rs. 2890 million (Government of India 1979a : 239).

While making such a welcome departure from the previous plans, neither the political leadership nor the planners thought it necessary to remove the factors which had frustrated earlier health plan proposals. This is an indication of the degree of political commitment to 'health for all'. It should have been realised that if the formulation and implementation of the rural health scheme was left to ill-prepared, ill-trained and not so competent functionaries, the programme would share the fate of many such ventures in the past. Failure to take this into account renders the planning process infructuous.

One of the most glaring shortcomings in health planning in India has been the failure to appreciate the distinction between 'health services' and

'health'. It is not intended here to debate on the definition of health. Even if the portion describing it as a 'state of complete physical, mental and social well-being' in the WHO definition of health is ignored and only 'mere absence of disease' is retained, it is apparent that efforts made in all the Five Year Plans were not really health planning but, at best, health services planning. It is now recognised that health services are but one of the many factors that influence the health of a population.

To be sure, factors other than the health services which influence health have received attention in some other sectors of the Five Year Plans. Indeed, the Minimum Needs Programmes of the Fifth and Sixth Plans came quite near to developing a multi-sectoral approach to health planning. But, scientific health planning requires that health benefits from inter-sectoral interactions be taken into account in formulating a health plan. Taking just primary education as an example: if there is universal primary education in the country, then the health of children is improved through better education, through more comprehensive immunisation coverage at much less cost, and with more favourable 'spin-off benefits' from nutrition programmes and school health activities. In turn, improvement in health has positive influence in fields such as education, social justice, agriculture, industry. Planners have not made conscious efforts to take into account the benefits from such inter-sectoral impacts.

A related issue in health planning concerns the process which determines allocations in the health services sector in relation and in proportion to the other sectors of the plan. What is the mechanism for determining the values of alternative allocations? Making these choices calls for challenging inter-disciplinary studies for working out alternative health services packages, on the one hand, and evaluating these in the context of plans and allocations for other sectors, on the other, so as to identify a package that would yield optimum benefit all round. The Sixth Plan does not provide any evidence that the planners had made even tentative efforts to think on these lines.

There is no indication in the Sixth Plan documents of the procedure that was adopted to determine the distribution of allocations under different heads within the total allocation of Rs. 18,210 million allotted to health services. From a reading of the analysis by the planners it seems doubtful that allocations were made after an analysis of the 'values' of alternative packages. Going further down, again, there is little evidence to show that any serious attempt has been made to assess likely outputs from different alternatives, even concerning individual programmes. There could, for instance, be a large number of alternative ways of implementing the basic principles of the rural health scheme and an optimal method could have been identified on the basis of forecasts. The chosen solution could have been field tested before it was recommended for national implementation,

as was done in the case of tuberculosis. This, essentially, involves applying the methods operational research.

Failure to meet some of the basic prerequisites of health planning has had its impact on the entire process of organisation and management of the programme. Programme formulation and implementation need very high-quality of administrative leadership. On one side, the leadership should have the capability of adopting a total community approach—an epidemiological approach—in examining health problems and in finding optimal solutions. On the other side, it should have considerable managerial skill and capacity to take into account the diverse dimensions involved in implementation of health programmes on a community-wide basis. The new challenges in the health fields call for a high quality of administrative leadership.

Unfortunately, the country continues to pay heavily as the political leadership very actively maintains the old colonial tradition of giving supremacy to generalist administrators in the administration of the health and family welfare services of the country.

This trend is discernible in the implementation of the centrepiece of the health sector of the Sixth Plan (1980-85), namely, the Rural Health Scheme. The task is obviously a most challenging one. It requires most meticulous attention from an interdisciplinary team of highly dedicated and competent managerial physicians. It is significant that the technical leadership for a revolutionary programme of such a complexity was entrusted to persons who had very limited backgrounds in the field of rural health or even of conventional public health. They were not in a position to provide the quality of managerial input that is needed to bring together ideas from such varied fields as public administration, epidemiology, social sciences, health economics, and public health sciences, to formulate and implement programme which will ensure that the people's health is placed in the people's hands. The result is that, instead of rising to the challenge posed by the task, the challenge is brought down to the level of competence (or incompetence) of administrators. This, as can be expected, had serious consequences. Evaluation studies (Chapter 11) have already brought to light some of these shortcomings. As has been described in Chapter 9, the record of the planners in the field of population control is even more dismal.

## STRATEGIES FOR DEVELOPING ALTERNATIVE HEALTH CARE SYSTEMS

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IT IS often not adequately realised that formulation of an alternative health care system is in fact formulation of an alternative paradigm for meeting the health needs of the whole population. The task is a big and highly complicated one, requiring a deep understanding of the various epidemiological dimensions of the major health problems of the population, including their social, cultural and economic dimensions and the trends in the natural history of these different problems over a period of time. From a technological standpoint, it calls for the formulation of a package of technological interventions in the natural histories of the various health problems with a view to getting optimal returns from investment in terms of funds, manpower, equipment, organisational structure in the given political, social and cultural situation.

It is the net outcome of such complex interactions amongst the very large number of variables which determines the effectiveness of an alternative system. Its formulation thus requires competence in operational research, and an inter-disciplinary effort to work out alternative options and identify that which promises to yield maximum returns, and then subject it to very rigorous test runs under existing conditions before recommending it as an alternative to the existing system (Andersen 1964; Banerji 1977c; Banerji 1972).

Even after an alternative system has been identified, there remains the enormous task of creating the appropriate setting for its implementation by bringing about a basic change in the culture of the pre-existing system through wide-ranging and intensive programmes of education and training.

The reports of the Sokhey Committee and of the Bhore Committee are outstanding examples of attempts at formulation of alternatives to the colonial pattern of health services.

## **FOCUS ON COMMUNITY SELF-RELIANCE**

Ivan Illich's critical analysis of the Western system of medicine (Illich 1977; Borremans 1978) stimulated widespread critical examination of and a search for a paradigm for an alternative system for India. The Western system had retained its dominance in independent India, and the effort was not to reject the central scientific core of Western medicine, but to divest it of current cultural and economic accretions which had formed a thick capsule around the central core through extensive iatrogenesis, professionalisation, centralisation and mystification. The example of the 'barefoot doctors' of China gave a further impetus to this line of thinking. It also led to the re-discovery of the recommendations of the Sokhey Committee's which had, way back in 1940, made a recommendation similar to that of employment of barefoot doctors, to meet the health service requirements of the rural masses.

J.P. Naik was the foremost among Indian scholars who wanted to implement Illich's ideas and transform the health care system of the country. He got an opportunity to give a concrete form to his ideas when, as a member of the Shrivastav Committee, he persuaded his colleagues to join him in recommending steps which, in effect led to the initiation of action to shift many decisions concerning health to the people themselves and in this way promote self-reliance. Naik's persistent efforts to promote community self-reliance in health matters received powerful support when, in the wake of the excesses committed during the Emergency of 1975-76, the new government adopted the policy of entrusting the people's health to the people's hands through training community health workers chosen by the people themselves.

## **INNOVATIVE PROJECTS**

While, at a conceptual level, Naik brought about a basic rethinking about health services that has greatly influenced their development since then, it also brought into a sharp focus the enormous problems involved in translating this concept into concrete action programmes.

Naik was again the moving force in the calling of the National Symposium on Alternative Approaches to Health Care in India in Hyderabad in 1978 under the joint auspices of the Indian Council of Medical Research and the Indian Council of Social Science Research (ICMR-ICSSR 1976).

Two trends emerged from the contributions. One trend was that expressed at the symposium by those with experience of work in relatively large-scale projects. The Comprehensive Rural Health Project, Jamkhed, the

Rural Health Research Project Uran, the Integrated Health Services Project, Miraj, the Integrated Health Nutrition Project, Madhya Pradesh, and the Kasa Model Integrated Mother and Child Health Nutrition Project belonged to this group. The other found expression among those engaged in less ambitious and even smaller projects, searching for alternatives in such circumscribed areas as child welfare, subsidised health co-operatives and hospital-based community health services. Some of these threw up valuable ideas for developing alternatives.

When, it came to concrete measures to reproduce successful projects on a large scale, not to mention working out a comprehensive national alternative, the symposium came up not only against limitations in project design, but also the fact that the success of the projects had been largely due to charismatic leadership and a concentration of investment and dedicated manpower that could not be multiplied by administrative action.

The report of the symposium reflects the wide gulf that separated the concept on one side and its implementation on the other. In fact, discussion of the mushrooming projects of varying quality created confusion concerning the scientific requirements for formulation of a comprehensive alternative programme. There was even a tendency to equate formulation of an alternative with the mere process of taking up a few villages to try out certain ideas, most of them patently simplistic. There was very little epidemiological thinking and efforts to develop alternative technologies left much to be desired. Most of them took the form of isolated efforts by well-meaning people to give effective services to a small population and had little applicability on a wider scale.

The fact that the Jamkhed Project received much attention, (Arole 1976; Newell 1975), as one which offered a prototype alternative health care system for India, underlines the very serious limitations in the then thinking concerning the formulation of an alternative. This project was defective in its design and implementation, even in terms of community self-reliance and community self-determination, which form the very foundation of the thinking of Illich and Naik. Moreover, there was the matter of highly dedicated couple belonging to a Christian Mission, who could mobilise considerable sums of money from abroad and who could also generate resources by doing high quality medical and surgical work at the Mission Hospital at Jamkhed.

One does not find much evidence of epidemiological analysis and the use of operational research in the formulation of an alternative system in the Jamkhed Project. Another major weakness is that the programme overlaps the pre-existing health services through the local primary health centre financed by the state government of Maharashtra. Finally, there is the fact that very little of what has been developed at Jamkhed has been replicated on a wider scale. If anything, the Jamkhed experience proves that much

more thorough efforts through much larger teams of scholars are needed to tackle the challenging task of working out a blueprint for an alternative system of health services for India.

In the Kasa Project, which was also reported at the Hyderabad Symposium, an attempt was made by a professor of pediatrics, again with considerable support (which cannot be replicated on a larger scale), to work out an alternative programme of pediatric care by activating the existing primary health centre at Kasa in Maharashtra. The fact that it failed to make any dent even on the level of child health of the relatively small population once again shows that this project cannot be considered to be an effort to develop an alternative health care system for the country as a whole.

Following the ICMR-ICCSR Symposium, Naik started to develop a sounder conceptual basis for formulating an alternative. In his monograph, *An Alternative System of Health Care Services in India*, he brought together three streams of thought (Naik 1977) : those represented by the Report of the Shrivastav Committee, those of the present author, and his own ideas, developed out of the thinking of the first two. He focussed on the unserved and the underserved as target groups, emphasised preventive and protective aspects, choice of a technology and delivery system and promoting demystification, deprofessionalisation and democratisation.

## **REPORT OF THE ICSSR-ICMR STUDY GROUP**

To give a more concrete shape to his ideas, J.P. Naik successfully promoted the setting up of the ICSSR-ICMR Study Group on an Alternative Strategy for Health Services in India (ICSSR-ICMR 1981). The Study Group consisted of eminent public health professionals and planners. The major recommendations of this Study Group are summarised below.

### **Objectives**

The objective of the national health policy should be to provide health for all by A.D. 2000. This objective cannot be achieved by a linear expansion of the existing system and even by tinkering with it through minor reforms. Nothing short of a radical change is called for; and for this it is necessary to develop a comprehensive national policy on health.

### **Approach**

If this goal is to be realised, a major programme for the development of health care services is *necessary* but not *sufficient*. During the next two

decades, therefore, the three programmes of (1) integrated overall development including family planning, (2) improvement in nutrition, environment and health education, and (3) the provision of adequate health care services for all and especially for the poor and underprivileged (through the creation of an alternative model) will have to be pursued side by side.

### **Integrated Development**

The objectives of integrated development are to eliminate poverty and inequality, to spread education, and to enable the poor and underprivileged groups to assert themselves. This will include the following programmes :

1. Rapid economic growth
2. Full-scale employment
3. Improvement in the status of women
4. Adult education with emphasis on health education and vocational skills
5. Universal elementary education
6. Welfare of the Scheduled Castes and the Scheduled Tribes
7. Creation of a democratic, decentralised and participatory form of government
8. Rural electrification
9. Improvement in housing
10. Organising the poor and underprivileged groups.

### **Family Planning**

There should be a National Population Commission set up by an Act of Parliament to formulate and implement an overall population policy. The objective should be to reduce the net reproduction rate from 1.67 to 1.00 and the birth rate from 33 to 21. While work with women will continue through MCH services, intensive efforts should be made to work with men also. While the health services have a role to play in motivation also, their main responsibility is to supply the needed services and follow-up care. The alternative model of health services has been designed to meet these challenges fully and squarely.

### **Nutrition**

Nutrition will have to be improved through adequate production of food, reduction in post-harvest losses, proper organisation of storage and

distribution and increasing the purchasing power of the poor through generation of employment and organisation of food-for-work programmes.

### **Improvement of the Environment**

Improvement of the environment will reduce infection, make programmes of nutrition more effective, and help materially in reducing morbidity and mortality. Safe drinking water supply will have to be provided to all urban and rural areas. Good sewage disposal systems should be established in all urban areas where, simultaneously, a massive programme of proper collection and disposal of solid wastes and their conversion into compost will have to be developed.

### **Health Education**

Health education should become an integral part of all general education and should receive adequate emphasis. Health education should also be an essential component of all health care; and the health care services should assume special responsibility for the health education of the poor and underprivileged groups who need it most.

### **Alternative Model of Health Care Services**

Within the health sector, the most important recommendation is that the existing exotic, top-down, elite-oriented, urban-biased, contralised and bureaucratic system which over-emphasises the curative aspects, large urban hospitals, doctors and drugs should be replaced by the alternative model of health care services in a planned and phased manner by A.D. 2000. This alternative model is strongly rooted in the community, provides adequate, efficient preventive and curative aspects, and combines the valuable elements in our culture and tradition with the best elements of the Western system. It is also more economic and cost-effective.

### **Maternal and Child Health (MCH)**

MCH services should be expanded and improved through an essentially domiciliary programme. The *dais* should be trained and fully utilised.

### **Communicable Diseases**

The fight against communicable diseases should be continued with still greater vigour. Our object should be to eradicate or at least effectively

control diarrhoeal diseases, tetanus, diphtheria, hydrophobia, poliomyelitis, tuberculosis, guineaworm, malaria, filariasis and leprosy.

### **Training and Manpower**

Under the new alternative model, the organisation of the health services will be radically different from that in the existing system. A new category of personnel, the Community Health Volunteers, will be introduced and it will be the main bridge between the community and the services. The middle level personnel will increase very substantially. There should be adequate arrangements for the continuous in-service education of all categories of health personnel. The Government of India should establish, under an Act of Parliament, a Medical and Health Education Commission with comprehensive terms of reference. A continuing study of manpower and training and taking effective action thereon should be a major responsibility of this Commission.

### **Durges and Pharmaceuticals**

There is need for a clear-cut drug policy and a National Drug Agency to implement it. The pattern of drug production should be oriented to the disease pattern, with an emphasis on the production of basic and essential drugs (especially those needed by the poor and underprivileged groups) which should be produced in adequate quantities and sold at cheapest possible prices.

### **Research**

The priority areas obviously are primary health care, epidemiology, communicable diseases with a special emphasis on diarrhoea, environmental research, and research on drugs, problems of rural water supply and sanitation, indigenous medicine, health implications of industrial development, and family planning. It is also necessary to promote research on social aspects of medicine and especially on the economics of health. Considerable attention has to be given to the development of appropriate technology. Side by side, there should be an emphasis on the development of clinical and basic research, particularly in the field of biology.

### **Administration**

It is necessary to redefine the roles of the central and state governments in view of the large powers delegated to the local bodies at the district

level and below. Voluntary agencies will have to function within the overall policy laid down by the state. But they should receive encouragement and aid, especially when struggling at the frontiers and doing pioneer work.

### **Financial**

The total investment in health services should be substantially raised and health expenditure should rise by 8 to 9 per cent per year at constant prices and reach about 6 per cent of GNP by A.D. 2000. The existing priorities should be radically altered and the bulk of the additional resources will have to go into promotive and preventive activities in rural areas, into the development of supportive services like nutrition, sanitation, water supply, and education, and for providing health care services to women and children and the poor and underprivileged groups.

### **National Health Service**

The alternative model proposed is a large step in the creation of a national health service, but it does not create it. The time is not ripe for it and the issue may be examined, say, ten years from now.

### **Conditions Essential for Success**

The programme suggested to realise the objective of health for all is as exciting and worthwhile as it is realistic and feasible. Its success will depend upon our capacity to create a mass movement and the ranks of millions of young men and women to work it. It will be proportional to the extent to which it is possible (i) to reduce poverty and inequality and spread education; (ii) to organise the poor and under-privileged groups so that they are able to assert themselves; and (iii) to move away from the counter-productive, consumerist Western model of health care and to replace it by the alternative model based in the community as is proposed in the report.

## ANALYSIS OF THE ICSSR-ICMR ALTERNATE STRATEGY

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THE SEARCH for alternatives in health care delivery has been ongoing one in India. The most recent (1981) study by the ICSSR-ICMR Study Group (ICSSR-ICMR 1981) subsumes most of the trends in thinking on the subject over the last 30 years. Therefore, a thorough examination of its proposals is attempted here with a view to reaching a better understanding of possibilities for better health services development in the country (Banerji 1981a). Alongside, an alternative approach is outlined by the author in the following chapter, which may be considered a product of analysis of all his past thinking as well as his experience of the working of the existing model of health services.

The Report of the Study Group set up jointly by the ICSSR and the ICMR should attract special attention for three major reasons. First, the ICSSR-ICMR Study Group is itself keen on having a nationwide debate on its Report. Second, it claims to offer a prescription for providing health for all the people of India by A.D. 2000. This is a particularly audacious venture :

- (i) because the health problems of India are so massive and complicated;
- (ii) because of conditions such as widespread prevalence of poverty, hunger and illiteracy and extremely poor conditions of environmental sanitation and housing;
- (iii) because the existing health service system is oriented to serve the more privileged urban class and is curative in emphasis;
- (iv) because, often, the technological approach is not appropriate;
- (v) because of grossly inefficient functioning of the health services; and,
- (vi) because the institutions for education, training and research in the health field and the entire health care delivery system are often out

of tune with the needs of the masses of people they are expected to serve.

Third, the ICSSR and the ICMR have brought together renowned persons from relevant fields to join the Study Group and work as an interdisciplinary team.

However, even a cursory glance at the report reveals that efforts have fallen far short of requirements. There are gross shortcomings in the Group's investigations, in their diagnoses, in their prognoses and, last but most important, in their prescriptions. As discussed earlier, development of a strategy for health for all requires an epidemiological approach for making community diagnoses and for developing an optimal package for technological interventions in the natural histories of different health problems, in order to make the maximum epidemiological impact on the problems. The report provides numerous instances of the Study Group not having shown enough sensitivity to the epidemiological issues involved in solving community health problems. Because of this, in many cases, it has ended up making assertions which do not stand scientific scrutiny. That the top names in various aspects of community health have proved to be much less than adequate in formulating a plan of action to improve the health status of the people of India is an indication of the depth of the crisis facing India's health services today.

As the task of evolving a strategy for providing health for all the people of India by A.D. 2000 requires optimisation of a highly complicated system, the old British method of 'forming a committee to look into the problem and make recommendations' is hardly the best choice of method. The famous Bhore Committee also suffered from this disadvantage. But that was long ago (1943-46) and it was set up by the British rulers. Through sheer hard work, good team work, meticulous analysis of available data, high degree of competence of individual members and with strong and competent support from its secretariat, it had been able to overcome many of the disadvantages of committee work and succeeded in developing certain insights that are of immense value to health administrators of India even today. The report of the Mudaliar Committee (1960-62) (Government of India 1962) forms another major landmark in the development of health services in India. Apart from suffering from the disadvantages that are inherent in the committee method of problem solving, the performance of this Committee and its report was very much inferior to that of the Bhore Committee. There were, however, two major factors which gave some substance to its recommendations. First, it had received a rather modest mandate from the Government of India, viz. to make an assessment of the progress made in implementing the recommendations of the Bhore Committee. Second,

despite all its limitations, the Mudaliar Committee made its recommendations after analysing the relevant data that were then available.

The ICSSR-ICMR Study Group, similarly stuck with the committee method, has not analysed even the available data. Hence, the scientific bases of this report are even more fragile than those of this Mudaliar Committee. This is particularly alarming because the Study Group had set about to perform the stupendous task of drawing up a strategy for providing health for all the people of India by A.D. 2000.

However, the report does contain some very refreshing and categorical pronouncements. It makes the unequivocal pronouncement that the entire question of health is intertwined with wider questions related to social, economic, political and cultural development of society and that intense efforts in the health sector should have a backdrop of simultaneous, complementary and mutually supportive efforts in (i) socio-economic-political transformation, (ii) family planning and (iii) interrelated fields like nutrition, improvement of the environment, and health education (ICSSR-ICMR 1981 : vi-vii).

Similarly, by endorsing the recommendations of the Planning Commission Working Group on Population Policy (Government of India 1980a), it firmly takes the view that family planning can be meaningful only if there is concurrent socio-economic development, particularly improvement in the status of women. The Study Group also totally rejects all forms of coercion and monetary enticements. This Group is equally categorical in relating the nutritional problem to the problem of employment, social justice and democratisation, which influence the purchasing capacity of the people. The Group recognises that in the existing social structure, a small elite controls disproportionately large political and economic power and this poses a major obstacle to ushering in a more equitable health care system. The Group is also quite outspoken about promotion of self-reliance among people by bringing about greater decentralisation and democratisation of health service organizations and demystification of medicine.

Though these pronouncements have not been made for the first time, the fact that a Group which enjoys so much prestige has come out so categorically on these important issues is itself of considerable help in debunking the conventional wisdom that had dominated the health field for such a long time.

However, these laudable pronouncements have not been carried to their logical conclusions in the form of more specific action programmes. The Study Group has also ended up making many recommendations which are diametrically opposed to some of the pronouncements referred to above. For example, on one side, they have pleaded for community self-reliance, respect for peoples' autonomy, and promotion of democratic values; on the other they have pleaded for establishment of a Population Commission by

an Act of Parliament 'to formulate and implement an overall population policy' (p. 148). Elsewhere (p. 21), the Study Group asserts: 'Family Planning should become a national and peoples' movement, beyond party rivalry. For this it may be desirable to set up a National Population Commission by an Act of Parliament. It should give representation to all the concerned interests, review the entire population policy and its implementation, and submit an annual report to Parliament'. There is an apparent contradiction in the two references to the proposed Population Commission in the same Report: on page 148, the proposed Population Commission is to *formulate* and implement an overall population policy, while earlier (p. 21), it was merely to *review* the entire population policy and its implementation.

Again, while the Group has made very laudatory references to the Planning Commission Working Group on Population Policy, it has ignored the fact that the Working Group had categorically rejected the idea of a Population Commission on the ground that such an organisation would be contrary to sound principles of public administration. While pushing their case for a Population Commission, the Study Group has not tried to contest the arguments of the Planning Commission Working Group. It has also not cared to take into consideration the experience of the Population Commission of Pakistan, set up during the days of General Ayub Khan. It also seems to be impressed by the regimes in the Philippines and Indonesia, who have set up such commissions.

Unfortunately, there is a similar contradiction in what appears to be the central recommendations of the Study Group, namely recommendations relating to the Alternative Model of Health Care Services. While the Group pleads vigorously in favour of Ivan Illich's idea of a deprofessionalised, debureaucratised, decentralised and participatory system, it unhesitatingly recommends that the community-based health workers should be given avenues of promotion as whole-time, multipurpose workers, nurses and even doctors! Quite apart from many questions concerning the intrinsic soundness of this idea, it cuts at the very root of the philosophy propounded by Illich, which insists that people themselves should be encouraged to cope with their health problems. How can this happen when a people's representative (i.e. the Community Health Workers) is specifically offered a reward (in the form of being coopted to the health establishment) if the establishment is 'satisfied' with his/her performance !

All this indicates an absence of coherent thinking within the Group and an effort to accommodate differing viewpoints without adhering to any basic line. This 'compromise' document shows that it has not been possible for the Study Group to develop an agreed frame of reference based on multidisciplinary, scientific analyses of health plans and programmes and

thus it cannot be expected to offer a dependable prescription for providing health for all by the turn of this century.

There are also a number of very serious shortcomings in the substance of the report. Foremost among them is the failure to go to the roots of present-day problems afflicting the health service system. This failure is reflected in many of the recommendations. For instance, while the Group asserts that tuberculosis is one of the foremost public health problems of the country, it does not attempt to analyse why, despite two decades of implementation of the national programme, no dent has been made on the problem. The failure of the Study Group to develop insights into problems has also influenced its recommendations. The following excerpt (p. 100) concerning a health problem which is considered by it to '(rank) high as the single communicable disease causing largest morbidity and mortality', is an example of contradictory thinking:

The National Tuberculosis Control Programme has remained a rather restricted service providing diagnosis and treatment of sputum-positive cases largely in urban areas. Large scale preventive immunisation with BCG is being practised. These services are rendered through the District Tuberculosis Organisation. Apart from ineffective coverage, the outreach of services has been very poor. It appears that better results will be available if the tuberculosis control programme is merged with general health services so that the peripheral primary health workers help effectively in early detection and better case holding. This indeed is the current strategy of the national programme. The alternative model proposed by us will make this possible.

Absence of an in-depth approach to collection of the relevant information, to its analysis and interpretation, and a superficial approach to making recommendations are thus the hall-marks of the Study Group's report, right through, starting from consideration of an alternative national health policy through aspects of administration, finance and implementation. In the context of the problem the Group addresses, the danger of the prescription becoming a mere concoction of some 'faith healers' becomes very real.

There is also a conspicuous lack of balance in the content of the recommendations. There appears to be relatively greater preoccupation with structural aspects of organisation. Inadequate also is the attention paid to the vast area of optimisation of technological content of health service systems on the basis of analysis of epidemiological, social and economic variables, and a similarly extensive area dealing with the actual functioning of the system and the entire 'culture' of health service organisations, including socialisation of health workers in various institutions of education and training. For instance, such critical issues as the role of

generalist administrators, cadre structure, role of leaders at political administrative and technological levels, and technological content of various health programmes have been virtually ignored. In contrast, considerable space has been devoted to administrative structure.

Perhaps unwittingly, in their enthusiasm to promote 'The Alternative Model Health Care Services', the Study Group have underplayed certain positive features of what it has termed as the then 'Existing (i.e. 1981) Model'. The 'Alternative Model' mentions one (or two) Community Health Workers (CHW) for a population of 1000; a male and female multipurpose worker (MPW) for every 5000; a 30-bed Community Health Centre for 100,000; a District Health Centre for 1,000,000; and a Specialist Centre for 5,000,000. How different is this from the Existing Model? The Existing Model also visualises one CHW for 1000, one male and one female MPW for 5000, a 25-bed hospital at the block level, with taluk, district, specialised and teaching hospitals forming links in the chain in a regionalised health services system. The Alternative Model emphasises community participation, but the Existing Model has also been emphasising, since 2 October, 1977, for entrusting 'people's health in people's hands'. In fact, at least in terms of polemics, the Existing Model scores a major point over the Alternative Model when it categorically rules out any chance of the CHW being promoted to become an MPW, on the very solid ground that it would mean subversion of the entire philosophy of promoting community self-reliance. Furthermore, the Existing Model has visualised social orientation of medical education and integration of all components of health services since the early fifties.

As the Study Group has virtually ignored these policy commitments of the Existing Model, it has made no effort to discuss the vital issue of the factors which have come in the way of implementing such policy commitments. It ought to have made a searching analysis of the problems that have come in the way of implementation of the programme of entrusting "people's health in people's hands" before presenting recommendations in the form of an Alternative Model. Had such an analysis been made, the Study Group would not have harboured such optimism concerning their Alternative Model. Also, the repeated references to the entrenched vested interests within the social structure, appear contradictory to the supremacy it has given to the 'community' in controlling the health services system. Which 'community' did the Study Group have in mind? The strategy to ensure that vested interests do not destroy the very soul of the Alternative Model, as has happened so often in the past, has not been spelt out. The Group has thus bypassed some of the most crucial factors impeding growth and development of the health services.

Along with bold recommendations to link the entire question of poverty with the problem of nutrition, the Study Group has also recom-

mended continuation of programmes providing iron and folic acid to pregnant women, vitamin A to children and fortified salt to people living in the goitre belt. The report is silent on its analyses of the scientific bases of these programmes, its assessment of the system for delivering these supplements and of the epidemiological impact of these programmes.

The Study Group has been particularly remiss in dealing with the national programmes of major communicable diseases. Reference has already been made to its very casual approach towards tuberculosis as a public health problem. Similar lapses are discernible in its recommendations concerning malaria, filaria, leprosy and other communicable diseases. It has chosen to overlook some critical shortcomings in the epidemiological and ecological approach, choice of technology and in organisation and management of these programmes. It has confined itself to offering certain very prosaic, textbook-like suggestions, with little imagination and insight. One finds the same outlook in recommendations concerning improvement of the environment, water supply (everybody should get supply of protected water by A.D., 2000), solid waste disposal (the degrading system of carrying night-soil on heads must go), 'rural sanitation', housing and settlements, pollution control, and health and industrial development.

The Study Group has once again sought a solution to the highly complicated question of restructuring of education of various health professionals by asking for establishment of a Medical and Health Educational Commission 'for maintenance of standards of health and medical education . . . (broadly) patterned after the UGC with a wholetime chairman' (p. 117). In making these recommendations, it has not analysed how far the University Grants Commission (UGC) or the Medical Council of India (MCI) have lived up to the mandates enshrined in their respective Acts of Parliament. The Group, which included some key members of the Shrivastav Committee, has also not analysed and assessed how far the other recommendations made by the Shrivastav Committee have been implemented. The three decades of experience in efforts to bring about social orientation of medical education, by establishing 'high powered' departments of preventive and social medicine, has also not been discussed.

The Study Group's neglect of the need for changes in education of other categories of health professionals - e.g. nurses, health visitors, auxiliary nurse midwives, health administrators, hospital administrators and sanitary inspectors—is even more serious. This, with the recommendation concerning a Medical and Health Education Commission, again underlines the group's propensity to focus on bare structural issues, without paying adequate attention to the quality of personnel who will occupy various positions within the structure, to issues that are related to the most vital factor of *functioning* of the system, and to the technology that would be appropriate

to a health system which is working in a given social, economic, political and epidemiological milieu.

No new ground has been covered to any significant extent in the fields of health education, drugs and pharmaceuticals, research and administration, finance and implementation. Discussion of these subjects also suffers from many of the deficiencies already discussed.

A social scientist, a public health nurse, an economist and an expert in ayurveda were included in the Study Group, but their contribution are not very visible in the report. One would have expected a much more incisive economic analysis, not simply for careful calculation of costs, but also in the formulation of different alternatives and comparison of their outputs as epidemiological and social forecasts and, finally, identification of alternatives which offer best returns from resources. Similarly, while social scientists have dealt with the broader social, economic and political issues crucial to improvement in the status of health of a community (as distinct from health services), they have not made adequate contributions in the form of working out the strategy and tactics to be adopted for initiating social, economic and political change for health promotion. They have also not done so for overcoming the structural barriers to change within a community, for bringing about the needed socialisation through social orientation of education and training and for working out strategy and tactics for bridging the cultural gap between the health service system and the community. One also misses contributions from the vital field of public health nursing and nursing administration, and contributions from social scientists and the expert in ayurveda, providing a perspective of the political economy of ayurveda and other indigenous systems of medicine and the actual mechanism of incorporating ayurvedic principles and practices within the alternative health care system recommended by the Study Group.

While the Study Group appears fully justified in categorically stating that far-reaching social, economic and political changes are a prerequisite for promotion of health for all, it does not offer any plans for the transitional period. What do till such radical changes take place, and what should be the strategy of using health programmes, including the health services, as vehicles for increasing the tempo of the desired changes?

Strengthening of the key leadership positions within the health services and within the institutions for education, training and research is a fundamental prerequisite for implementation of a strategy for providing health for all. This is a very challenging task. But the country *has the potential* for providing the needed quality of leadership. The initiative must be taken by the political leadership to exploit that potential. In fact, India is in a happy position in terms of the policy commitments needed for providing health for all and in terms of manpower required for implementing

these policies. Once moves are made by the political leadership to strengthen the leadership of the health service system, the ideas embodied in the Community Health Workers' Scheme, the Multipurpose Workers' Scheme, the reports of the Working Group on Population Policy, the Shrivastav Committee, etc., will provide valuable channels for bringing health services nearer to the people, particularly to the poor and the oppressed. Concurrently, the reactivated research institutions can launch research projects, employing methods of operational research and systems analysis, to strengthen the health services system by formulating more effective ways of dealing with the major health problems facing the country. By employing such research methods, these institutions can also identify more effective ways of using the extra resources made available to the health services as part of an integrated strategy for social and economic development to attain the goal of Health For All by A.D. 2000.

## SUGGESTED APPROACH TO HEALTH SERVICE DEVELOPMENT

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### POLITICAL DIMENSIONS

THE formulation of alternative government policies is essentially a political task (Banerji 1977c; Banerji 1978a). A crucial determinant of the nature of an alternative chosen is whether the political system governing a society favours continuance of rule by an oligarchy or whether it actively promotes changes in the social system which will enable the masses, particularly the underprivileged and the underserved, to actively participate and to have their say in the affairs of the country.

Under a political system which sustains the *status quo*, alternative systems are formulated either to find more effective approaches to serve the ruling class or, much worse, to provide an aura of legitimacy to an obviously unjust social system by arousing false hopes among the underprivileged and the underserved.

In a political system where there is a commitment to a process of democratisation and the progressive involvement of the entire population in decision-making, the circumstances are basically different. In the first place, there is considerable enthusiasm among the people for active participation in the shaping of their health service system and in running it. Secondly, the very process of democratisation ensures that those working at the technological levels are impelled to evolve an alternative technological framework which is relevant to the needs of the entire population, particularly to those of the weaker sections.

No doubt, more often than not, the verbal commitment to democratisation is a mere facade to cover the perpetuation of the old unjust social relations. It is also very likely that, under such political conditions, formulation of an alternative system, however scientific and relevant, becomes at

best a mere academic exercise. Gross deficiencies in the implementation of India's National Tuberculosis Programme is an example. Nonetheless, even an academic exercise can become a useful instrument for putting pressure on the rulers to bring about the desired political change by offering concrete, well-thoughtout alternatives. It can, in any case, serve as a blueprint for action when the political changes finally take place. A campaign for active promotion of a people-oriented alternative health care system thus, in fact, becomes a potent tool for pressing for change in the political system (Banerji 1978b).

### **TASKS BEFORE COMMUNITY HEALTH PHYSICIANS**

Once the political potential of a concession made by the ruling elite is properly understood, the next logical step is to mobilise the technological resources needed to transform the facade into a reality. How to ensure that, even under existing constraints, health services become more accessible to the masses of people, so that its use as a weapon of oppression is minimised? This is the challenge before socially conscious community health physicians. Recognition of the potential of health services development for promoting democratisation and preparation of suitable conditions for developing an alternate people-oriented technology requires that political workers and socially conscious community health workers work as a well-orchestrated team to take advantage of the verbal commitment of the ruling class to health service development.

Formulation and implementation of an alternative health services system which is specifically designed to alleviate suffering resulting from health problems thus acquires considerable significance. It must be noted that the formulation of such an alternative not only demands ending of dependence on commercial elements that have infiltrated so deeply and extensively in the Western system of medicine, but also considerable innovative talents to devise alternative technologies and health care delivery agencies which are in consonance with available resources, the epidemiological characteristics of the problems, and the cultural and social setting of the population to be served.

Meeting those felt needs of the people, which happen often to coincide with epidemiologically assessed needs, receives top priority in such a framework. In the circumstances, it should be possible to demonstrate that the alternative adopted has taken into account people's own perspective of the problems and that, under the existing conditions of resource constraints, the alternative technology will yield significantly greater benefits to them in

terms of alleviation of the suffering due to health problems than the existing system. To achieve this, it is necessary to appreciate that the field of research on delivery of health care to a community is a very complex and extensive one which requires an approach which is qualitatively different from that required for other research work. As pointed out in Chapter 16, much more than field research, clinical research and laboratory research combined is required. What is required beyond this is a framework in which data from different conventional research approaches can be brought together for the purpose of examining health care delivery in its entire complexity and formulating alternatives by bringing about changes in some of the key components of that complexity.

The challenge is to devise a mechanism for identifying weak links in the system and means to strengthen the links thus identified, either through findings of specifically designed research studies or through a shift of resources to those weak links from the relatively stronger ones. By this process of strengthening of the weakest links in the chain, it may be possible to strengthen the entire health care delivery system. Shift from liquid to freeze-dried smallpox vaccine, changeover from a streptomycin injection regime to one of oral thiacetazone in tuberculosis programmes, and the replacement of the conventional BCG vaccination of only the tuberculin negatives with BCG to all, are instances of weak links in the chain of health care delivery being identified on the basis of a holistic analysis of the entire system and their strengthening. Specific research data concerning these weak links were used, thus making a critical contribution to the strengthening of the entire delivery system.

## AN OUTLINE OF THE SUGGESTED ALTERNATIVE

The central premise of the suggested alternative is to *start with the people*. While it is now being gradually realised that it is unrealistic to expect improvement in the health of the people without appropriate political, economic and social action, it is often overlooked that efforts to relieve the suffering caused by health problems can, in their turn, contribute to the initiation of such action. In this context, the formulation and implementation of an alternative acquires considerable and wide social and political significance. First, as has already been pointed out, the very alleviation of suffering has political significance, because it narrows the gap between the ruling class and the masses. Consequently, the masses are in a somewhat better position to wrest their rights from the ruling class. Second, such an alternative would provide an entry point for change agents, who could use

the opportunity to work with the people to initiate changes in other social and economic fields. It may also prove to the people that they can, by their own efforts, create better conditions for solving their health problems. Thus, by generating social awareness it may serve as a lever for promoting similar developments in other social and economic fields, such as education, employment, land reforms, cooperation, legal protection and social justice. In short, it has the potential to initiate a chain reaction which will help the exploited to win their rightful place in society.

## NEW APPROACHES TO COMMUNITY INVOLVEMENT

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THE primary health care approach seeks to virtually overturn the entire health service system of all countries with a view to ensuring that medical technology subserves the community and the distortions caused by powerful market forces, undue professional dominance, iatrogenesis, and obsession with technology, are corrected.

As is to be expected, conditions for promoting the primary health care approach will vary from country to country and region to region. The degree of social orientation of medical technology, the degree of promotion of community self-reliance, and the degree to which the health service system provides back-up support to a community, will be determined by the degree of democratisation within the community and how much influence various democratic institutions can exert in the shaping of people oriented health services. *Democratisation of a community and involvement of democratic institutions form the cornerstone of community participation.* A system in which a community is made to participate through a dictat from above would be the very antithesis of what is implied in the philosophy of primary health care. The central guideline for primary health care workers for ensuring community participation is 'Go to the people and learn from them'. Various social, cultural, economic and political facets of the lives of the people have to be carefully studied, and their health culture understood against the broader background of their overall way of life. A people-oriented health service system has to be basis of such understanding and should also form the basis for promotion of community participation in health services. This defines the task of social scientist members of an interdisciplinary team of health workers which is called upon to implement a system of primary health care.

When these considerations are not borne in mind in developing primary health care systems, the term itself degenerates into a deceptive

cliche, worse than an empty ritual. To swim along with the current fahsion, some may rationalise about carrying on a cancer programme within a small, restricted community in a country where millions suffer from various communicable diseases, malnutrition and obstetrical disorders, by stressing the importance of a cancer programme in primary health care; others, who might have long been involved in conducting mass campaigns—the so-called vertical programmes, may jump on to the bandwagon simply by putting a label of primary health care on whatever they have been doing. There may be still others who invoke the need for community participation in primary health care to justify letting loose a horde of health educators on a community and employing various media of mass communication to make it (the community) participate in the health programmes dished out by them. There might be still others who take the other, rather extreme, romantic position of leaving the community strictly to its own devices to cope with health problems while allowing those already enjoying access to sophisticated institutions of Western medicine to keep on suffering from all the iatrogenesis, professional dominance and loss of autonomy this entails!

In this context, some recent observations of the Director-General of the World Health Organisation, and the conclusions arrived at by a WHO Expert Committee are very relevant. Delivering the Inaugural Address at the XI International Conference on Health Education in Hobart, Australia, the Director-General observed (Mahler 1982) :

The revolutionary Alma Ata Declaration will remain a landmark in the history of health. And, as well, in the history of health education to which it gave a place of prime importance in framing individual and community self-reliance and developing people's ability to become full partners in health promotion and care. No longer should the health services *filter down* through a number of layers to *reach the underserved*. An upward movement, starting from the people has now been initiated. To me, participation—or more correctly *involvement*—is a mental process in which individuals and communities identify with a movement and take responsibility, jointly with health professionals and others concerned, for decisions and activities. This is distinctly a process that health education can promote.

. . . It [the PHC approach] stresses the importance of selecting a technology which is appropriate for each country in the light of its health and socio-economic circumstances. And last, but not the least, it calls for social control of health infrastructure and technology through a high degree of community involvement.

Towards the end of his address the Director-General said :

I sincerely hope this Conference will write an obituary to that type of health education which was concerned with *telling* people how to act and that instead it will emphasise taking due consideration of the social forces that bring them to act as they do.

A WHO Expert Committee on New Approaches to Health Education for Primary Health Care, which met after the Hobart Address of the Director-General, strongly endorsed his call for a total reorientation of the approach to health education (World Health Organisation 1983) :

Historically, providers of health care have concerned themselves with health problems. Individuals thus became the object of a development process in which they were not necessarily subjectively involved. More often than not, they were passive receivers of a service—when it existed and in many cases it did not. The emerging concept of primary health care has drastically changed this view. Policy makers and governments have gradually come to understand that men and women—every man and woman—are capable of being actively involved in matters regarding their own health, provided that they are aware of the issues involved, of the resources available and that their efforts have social and political sanction.

This concept obviously requires a change of attitude, not only among the individuals themselves but among those who provide health care. Experience has shown that paternal approaches and taking decisions for others is seldom effective. The people themselves need to fully understand the problems and to fully collaborate in their solution with the health care providers—as well as among themselves in order to make an impact on the health situation. The role of health education in this process is one where the provider and the receiver both teach and learn, and change roles constantly. Far from merely seeking the cooperation of communities in carrying out plans already made, health education aims at encouraging people to be actively involved in the planning and maintenance of their health and that of their communities.

In this new approach to health education in primary health care, the final objective is to foster activities which encourage people to *want* to be healthy, to *know* how to maintain health, to *do* what they can individually and collectively and to seek help when needed.

## HEALTH MANPOWER DEVELOPMENT FOR PRIMARY HEALTH CARE

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A CRITICAL task in launching a system of primary health care is the development of manpower resources necessary to make the care available to the people. Health personnel will also have to undertake the additional responsibility of taking social initiatives to promote intersectoral action in health. Thus, the task of manpower development for implementing primary health care is threefold: to produce personnel who have acquired competence in offering people-oriented technologies; to produce personnel of the different categories required in adequate number to ensure that services are available to *all* sections; and, perhaps most important, to so orientate health personnel as to reduce, if not totally eliminate, the gap between the culture of the health providers and that of the people.

To add further to the complexities, implementation of primary health care is a developing process. It does not come about all of a sudden, filling a vacuum, as it were. Nor can it be brought about as a brand new substitute after a wholesale demolition of a pre-existing health service system. For bringing about a gradual transformation of the pre-existing health service system, strategies, plans and programmes have to be carefully worked out for individual countries and even for individual regions of a country. The task of manpower development thus becomes correspondingly complex. Manpower has to be developed to keep in step with this process of transformation. For instance, in the initial stages, those who are engaged in manpower development may focus their attention on improving the efficiency of the health service system by improving management practices. This may be followed by a quantitative increase in the manpower. Again, in this quantitative expansion, an analysis of the manpower needs may lead to an action programme where the emphasis may be more on the production of auxiliaries than on

highly specialised professionals. A critical stage in manpower development would be when community health workers are inducted into the health service system. This stage will not only call for efforts to recruit and train community health workers in large numbers, but also to provide training to health workers in the rest of the system, so that the conventional health workers are in a position to respond much more effectively to the democratic aspirations of the people and the health system becomes broad based enough to accept community health workers and provide them all support, accepting them as a vital element of the community.

Absorption of practitioners of indigenous systems of medicine is also a major issue for health manpower development.

### **A SYSTEMS APPROACH**

As has been pointed out in Chapter 5, there are at least four major categories of factors which contribute to the formation of a system of integrated health services for primary health care: the community; the health problems; the technologies chosen for dealing with the problems; and the manpower development to make use of the technologies to meet the needs of the people. These factors very often interact closely among themselves, as also with other factors. Together, these constitute the system of health services. Availability of resources and ecological, cultural, social and political conditions provide the setting for interaction within such a system.

In the primary health care concept, the community forms the pivot of the system. Encouragement of community self-reliance and self-determination forms a major plank of this approach. For this reason it is necessary to have a deep understanding of a community in terms of its culture, social structure, economic conditions and distribution of political power. Furthermore, data on cultural perception and cultural meaning of different health problems provide a social dimension to epidemiological data on different health problems. Similarly, community acceptance is a major consideration in the choice of technology for dealing with health problems.

The relevance of community considerations for manpower development is closer still. Indeed, the community itself forms a most critical source of manpower for primary health care. Self-care by individual members of a community (which includes various types of home remedies) forms a major element of the approach. Enhancing the capabilities of a community to cope with its health problems by imparting short courses of training to health workers chosen from within the community is another major community contribution towards manpower development for primary health care. Practitioners of various indigenous systems of medicine and other

traditional healers and birth attendants, who form a part of the health culture of a community, are yet another source. All these considerations call for an approach to manpower development qualitatively different from the conventional one.

In addition, primary health care requires a community orientation of education and training of every other category of health workers, right from the seniormost members holding the most prestigious professional qualifications, down to the juniormost level of auxiliary health worker. This does not in any way imply that the inputs needed for developing technological competence among professionals engaged in primary health care could be at a lower level than for those for an elite-oriented health care system. Rather, it calls for inputs which should enable the personnel to make the most effective use of technology under severe constraints of resources. To be able to do so, they are expected to have understanding of the full range of technological options. They are also required to develop social insights which enable them to identify those options which are socially and economically most relevant; they may even be required to develop new lines of research which lead to identification of even better options. Over and above, they are required to develop a basically different attitude towards the community, viz. that technology is meant for the community, the community must be placed *above* technology.

The new challenge is that the entire health service system is required to be moulded to meet community needs. There is a subtle, but yet very vital difference between health professionals and auxiliaries being persuaded to think more in terms of the community and the community itself taking the initiative in having health professionals and auxiliaries within a system where these functionaries are specifically enjoined to support the community's efforts to deal with its health problems through a wide range of activities.

## NEW DIRECTIONS FOR HEALTH MANPOWER DEVELOPMENT

On the basis of the foregoing considerations, it is possible to identify the major tasks in manpower development for primary health care :

1. As an integral component of health systems development, health manpower development becomes a sub-system of the bigger system and interacts very closely with the other major sub-systems, namely the community, the nature of community health problems and the technologies that are chosen to deal with them. In other words, those engaged in health manpower development will have to be members of an interdisciplinary team for health service development. Their task will be to formulate strategies, plans and programmes for manpower development on the basis of

an understanding of the other sub-systems. Reciprocally, those engaged in developing other sub-systems of the health services will have to take account of the need for health manpower development.

Apart from its interaction with other sub-systems, the health manpower sub-system itself has to be dealt with as a complex entity, with a variety of factors influencing it from different directions. For instance, in terms of mix of personnel, it consists of a very wide range of categories. Again, within each category—physicians and nurses, for instance—there are very large number of specialisations. For each speciality there has to be a balance between quality and quantity. Curricula will have to be drawn up to meet the specific requirements of each category. Training of trainers, pedagogic approaches, institutional facilities and information systems and organisation of research in health manpower form other important elements of the sub-system of health manpower within the overall system.

2. The community is the main focus for health manpower development. Health personnel are required to offer technologies which are practical and effective under the conditions in which the community lives and within the resources that are available. This is quite different from the earlier concept of a health worker dispensing a 'standard' technology only to those who are able to acquire it.

3. To meet the health manpower requirements for primary health care it is now necessary to produce a much wider variety of personnel. It is not enough to produce conventional health professionals and some auxiliaries who are trained specifically to assist these professionals. The induction of a very large number of community level health workers and the association of practitioners of indigenous systems of medicine and other traditional healers and birth attendants into the system has given an entirely new complexion to the manpower profile for primary health care.

'Going to the people and learning from them' is a basic postulate of primary health care. The methods and concepts of the social sciences provide the mechanism for doing so. It will be necessary to produce anthropologists, sociologists, political scientists and economists, who, as members of interdisciplinary teams, would be able to assemble data, analyse them and provide guidance on social, cultural, political and economic matters for the health services. For instance, the earlier, somewhat paternalistic approach to health education, when decisions were taken for the people by providers of health services, were, as demonstrated by the social scientists, totally incompatible with the concept of primary health care. Social scientists have now formulated a new approach to study community involvement, as described in Chapters 15 and 25. Development of health educators with the training and orientation suited to this new approach, is an important task for manpower development for primary health care.

4. Another major task is to produce the different categories of personnel in adequate numbers. This requires major administrative efforts. Competent personnel will be needed to manage the very big and quite complicated programmes.

5. The considerable expansion of the health services system and induction of new types of functionaries calls for basic changes in the administration. Qualitatively different types of managerial personnel who are able to integrate the different categories of personnel within a people-oriented administrative framework are now required. They are also expected to play a much more active role than hitherto in promoting intersectoral action. There has also to be a considerable increase in the number of such managerial personnel.

6. Development of personnel for conducting health systems research and research on manpower as an integral component is another critical area.

### **TYPES OF PERSONNEL NEEDED**

Manpower is needed for primary health care at the three levels:

1. At the level of the community
2. At the level of health auxiliaries
3. At the level of health professionals

#### **At the Level of the Community**

This is the most significant level, because primary health care starts from the community. Training of community health workers and acquiring an understanding of the roles of practitioners of other systems of medicine, traditional healers of various types, and traditional birth attendants, with a view to synchronise at least some components of their activities with those of other community level health workers and health auxiliaries present a most formidable task for manpower development. The task is formidable precisely because the situation is so nebulous. Each community is unique, not only in terms of the community health worker it needs but also in terms of pre-existing traditional health practices.

Data on the cultural background of the community, the power structure, cultural perception and cultural meaning of health problems, health behaviour of the population and the pre-existing health institutions within the community are needed for formulating criteria for selection of community level personnel for training, in defining the training curricula and in working out the detailed training procedure to be followed.

### At the Level of Health Auxiliaries

Health auxiliaries have long been a part of health systems in India. This represents an attempt at deprofessionalisation. Auxiliaries have played important roles in many programmes, e.g. control or eradication of communicable diseases, family planning, maternal and child health, environmental sanitation and nutrition. Implementation of primary health care requires further deprofessionalisation of health services through more extensive use of auxiliaries. Health auxiliaries are also quite often required to work as the first level of contact between community health worker and the formal health organisation. This implies that, apart from performing the role of providing health technology to the community, they will also give support to community level workers and promote community self-reliance. Therefore, they will need appropriate training inputs to enable them to contribute effectively to the implementation of primary health care.

### At the Level of Health Professionals

A significant feature of the approach of primary health care is that, despite all the emphasis on promotion of community self-reliance and deprofessionalisation of health services through extensive use of health auxiliaries, it does not advocate the progressive elimination of health professionals. Indeed, to extend the coverage, primary health care will create still greater demands for health professionals than the old system. However, this approach does call for a basic change in the *attitude* of health professionals; they must be responsive to community needs.

While in almost every country there might be some socially sensitive health professionals who are prepared to take positive steps to bring about a change in the attitude, the task of bringing about such an attitude change must be initiated at the political level. This has been well recognised at the Alma Ata Conference. It is the forces of democratisation which would create political conditions which will actively nurture socially sensitive professionals, who, in turn, will initiate the basic changes envisaged in the concept of primary health care. Obviously, in any country democratisation does not come overnight. It comes about as a result of active efforts of the deprived sections to wrest their democratic rights. Struggle for primary health care has rightly been called a struggle for democratisation among the masses (Mahler 1979).

There are four areas where health professionals play a major role: administration of the health services; providing services to deal with the

more complicated health problems; providing education and training to *all* categories of health workers; and planning, evaluation and research to support the health services. These four components offer a convenient way of classifying the numerous varieties of professionals who are involved in a health service system.

There are professionals who are mainly line functionaries and who play managerial roles; there are professionals who are specialists of various kinds—clinicians, nurses, pathologists, bio-chemists, public health specialists, etc.—constituting staff functionaries at higher levels of the organisations; there are teachers and trainers of numerous kinds who run various institutions for education and training of different categories of health workers—from top most specialists to community level health workers; and, finally, there are those who are engaged in the fields of planning evaluation and research.

Those engaged in planning and research have to set the pace by drawing up a detailed blueprint for implementation of the concept of primary health care. Their role as initiators of the far-reaching changes necessary for implementing primary health care is therefore crucial.

Managerial personnel responsible for actually implementing primary health care also have a critical role to play:

1. They have to draw up the highly complicated organisational structure necessary for implementing primary health care. This involves blending of activities of community health workers at one end with those of super-specialists, at the other. It also includes blending of personnel working in institutions for planning and research and in institutions for education and training of health workers with those in the rest of the health service system.
2. These managerial personnel will also have to work in research teams to acquire insights into epidemiological characteristics of the major community health problems and draw up detailed strategies of intervention.
3. They will also have to coordinate their activities with those in related sectors to promote intersectoral action for health.
4. They will have to manage highly complicated health organisations and institutions.
5. Finally, they have to relate all their activities to the community to ensure that the entire health system works on the basic promise of promoting community self-reliance and community self-determination.

Thus, a health service system which is designed to provide services to

an entire community will need managers who have a very wide range of capabilities; they must have epidemiological capabilities to relate technological interventions to the problems as they exist in the entire population; they must have managerial capabilities to run highly complicated organisations; and they must have the social awareness that will motivate them to give primacy to the needs of individuals, families and communities in all they do. This type of medical functionary has been termed a Managerial Physician (see also Chapter 4).

## SOME ALTERNATIVE PROGRAMMES

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WHILE a radical transformation of the system of health services will have to be based on extensive studies, analyses, and evaluation of alternative strategies and organizational forms, this does not mean that no action can be taken until the findings of complex and often time-consuming researches become available. In fact, following the basic premises outlined in this book, it is possible to work out some specific alternative approaches by making use of currently available data, supplemented when necessary with impressions judiciously drawn from general experience. A built-in feedback system and ongoing research will ensure that the suggested alternatives are constantly monitored and their performance improved.

### RURAL HEALTH SERVICES

#### Medical Care

Community members could be encouraged to make maximum use of self-care procedures through use of home remedial measures. Services of locally available practitioners of various systems of medicine could also be used. Another supplementary community resource can be created by providing training for community-selected primary health workers, specifically drawn from among the weaker sections, who can make available home remedies and remedies from the indigenous and Western systems of medicine. These workers must have access to the services of full-time health auxiliaries and health professionals to tackle more complicated cases.

#### Maternal and Child Health Services

Here also, the key workers are those who have thus far been providing

services to the community—the family members assisting in childbirth and child-rearing, and the traditional birth attendants. Birth attendants or any other selected members of the community can be trained as primary health workers. They, in turn, would be supported by the full-time health auxiliaries, the primary health managerial physicians, and other referral services.

### **Control of Communicable Diseases**

Even with existing vertical programmes designed to deal with many communicable diseases, primary health care workers and other community personnel can take over a number of the duties that are at present being carried out by specialised health workers. Surveillance of malaria and smallpox, diagnosis and treatment of cases of tuberculosis, leprosy, filaria and trachoma, spraying of houses with insecticides and water management (including vector control) are some of the duties that can be taken over by the community.

### **Environmental Sanitation Programme**

So far, progress in this field has been very sluggish due to heavy costs and lack of community participation. Community involvement in environmental sanitation programmes through efforts of community health workers helps to develop technologies that are appropriate to the specific conditions in different rural communities.

## **AN ALTERNATIVE APPROACH TO POPULATION CONTROL**

Formulation of a population control policy (as part of a more comprehensive population policy) which is based firmly on the premise of having a birth control programme as a component of a larger composite programme package which is aimed at improving such conditions as health, nutrition, education, employment, social relations, and political participation of the oppressed sections of the population, may take some time (Banerji, 1969). But, it is possible immediately to make some concrete proposals for a rejuvenated family welfare programme. These are suggested and discussed very briefly below.

(1) First and foremost, there must be a basic change in the mechanism of decision-making, i.e. a change in the style of leadership, through changes in the criteria for selection of programme administrators. Talking down to the people must be replaced by first listening to them and then formulating action programmes. This requires a basic change in the culture of the leadership—in their entire world-view.

A change in the culture of the top leadership will lead to basic changes

in the organisation and management of the programme. For instance, organisationally, it should lead to a review of the place of generalist administrators at the top level and also the quality and competence of the so-called family welfare specialists who occupy key positions. These organisational changes should lead to better management in the form of better planning, better programme formulation and more effective implementation and evaluation. In turn, this should lead to qualitative improvements in the organisation and management of the specific institutions for evaluation, for research, and for training and education of family welfare workers.

On adopting the approach of starting from the people, it might well be found that there are many more in the community than is currently believed, who actively seek family welfare services but do not have access to them.

(2) At the operational level, improvements in organisation and management could lead to reorientation and rejuvenation of the services. This should be reflected in the form of:

(a) increasing community outreach of the services to meet the unmet felt needs for family welfare services;

(b) giving more tangible evidence of integrating birth control activities with the other health services, including maternal and child health services, which should also encompass the Integrated Child Development Scheme;

(c) further widening the range of family welfare activities by including indices for the progress of various poverty alleviation programmes (including the Revised Minimum Needs Programme and the Twenty Point Programme) for measuring the progress and effectiveness of family welfare activities. Concrete steps should be taken to develop administrative linkages between these programmes and the family welfare programmes.

(3) Launching of the Community Health Workers Scheme is a decisive step towards developing a people-oriented health service for India. Implementation of this scheme should strengthen the family welfare programme by: (a) contributing to generation of motivation for a small family norm; and (b) extending the outreach of the programme.

(4) The above approach also provides a framework for inducting newer technology into the programme. However, it is important to ensure that it is the programme needs which determine what type of technology will be inducted and not the other way round, as, for instance, had happened in the case of induction of the IUD and the mass communication drive.

(5) Decentralisation of the programme should be actively promoted, instead of being resisted. If some state governments cannot be depended upon for implementing the Minimum Needs Programme, they also cannot be expected to faithfully implement a centrally-sponsored programme.

(6) In the so-called voluntary sector, the Health Guides' Scheme, which is based on generation of health activities from amongst the villagers themselves, should form the central core. If there are other, self-financing voluntary agencies, which are found capable of making contributions to the programme, these should be encouraged. Agencies, which claim cent per cent grants from the government or other agencies are, in fact, not voluntary agencies, they are merely contracting agencies which promise to deliver certain services on payment and they should be treated as such.

The approach to rural health services suggested earlier in this chapter provides an apt setting for tackling the very urgent problem of population growth in India on the lines suggested above. Provision of contraceptive services to the population becomes fully integrated or assimilated within such an approach to other developments and sectors in health care. It ensures a network of services which covers the *entire* population in order to meet their needs in their own contexts, in relation to different problems encountered by them. One of the most significant aspects of a programme in which provision of contraceptive services is considered as one of the means of dealing with the felt needs of *entire* populations is that it ensures that the unmet felt needs are properly met by providing people access to suitable technical devices delivered through agencies which people trust. As has been pointed out in Chapter 9, such unmet needs exist to substantial degrees in states like Uttar Pradesh and elsewhere. The very meeting of the felt need might generate more felt needs for contraception within the community.

Apart from meeting of the pre-existing felt needs for contraception within a population, the approach also contributes to generation of *additional* demands for family welfare services when conditions are created in which the health services need of a community, which include the critical area of needs concerning maternal and child health services, are met to the satisfaction of the people (see Diagrams 1, 2, 3 on p. 408).

Further, as health service development is visualised as only one component for initiating intersectoral action for improving the health status of a population, actions in other sectors, such as employment generation, social justice, education, particularly education of women, and improvement in the status of women, are also likely to generate additional demands for family welfare services. Finally, if it is realised that, considering the dimensions of the problem, additional efforts will have to be made to generate still greater demand for family welfare services, this approach provides a perspective for launching a people's movement in the field of population control which has been talked of so often in the past, but to no avail.

As the implementation of this approach proceeds, some aspects of the existing family welfare programme will cease to have relevance. Use of

media for mass communication only for promoting family welfare and a small family norm, special clinics which provide only family welfare services, including specialised family welfare units in the organised sector, special grants to voluntary agencies for family welfare work, provision of cash incentives to acceptors, motivators and physicians, are some of the elements which will gradually shrink, and finally disappear altogether. In that sense, with the strengthening of health services as a part of intersectoral action for health, of which family welfare becomes an integral part, the family welfare programme as we know it today will simply 'wither away'; workers will not have to chase specific family planning targets.

## HOSPITALS

### **Extramural Changes**

The primary health care approach envisages that a hospital becomes responsive to the community within which it is located. It is required to become a community institution. This calls for a basic change in its traditional 'culture'. This does not imply that it will cease to offer high technology services or that there would be a decline in the status of those who provide high technology services. A basic change in the culture of a hospital implies essentially a change in the relationship between technology and community. Starting as an inward looking, market dominated, technology-oriented institution, a hospital opens itself to the community to respond to its requirements bringing about the necessary reorientation in its technology and in its organisation and management (Banerji 1981d).

Hospitals thus become closely integrated with the entire health service system even though they may be at the apex. Even beyond this, the approach of primary health care envisages that the entire pyramid of the health service system will be subordinated to the interests and requirements of the community as a whole.

Translation of such a perspective into concrete programmes of action involves the following:

- (1) An epidemiological approach that will define the role of hospitals as community institutions. In other words, the activities of hospitals must become an integral part of an overall health strategy and use an 'optimised' package of technology of promotive, preventive, curative and rehabilitative components.

- (2) Having defined the entire range of community health problems, it is also necessary to define the health culture of the community, including the felt needs that are generated by various health problems.

- (3) Having determined the felt needs of the community for health

services of various kinds, the area of a overlap between epidemiologically determined needs and community felt needs must be identified (Diagram 1). This area of overlap, in effect, indicates the degree to which a community is already 'willing to participate' in health service programmes. On this basis the fundamental question, Are the health services meeting the pre-existing willingness of the community to participate in them? must be answered. If the answer is in the negative, which is usually the case, then top priority must be given to evolving the most effective package of services to cover the area of overlap and win maximum community participation. With changing needs and perception in the community, it is inevitable that this process should be a dynamic one, culminating in a total overlap of epidemiologically defined needs and community felt needs (Diagrams).

(4) Participation of the community in the decision making process. The degree of such participation determines the degree of success in subordinating health services to the people.

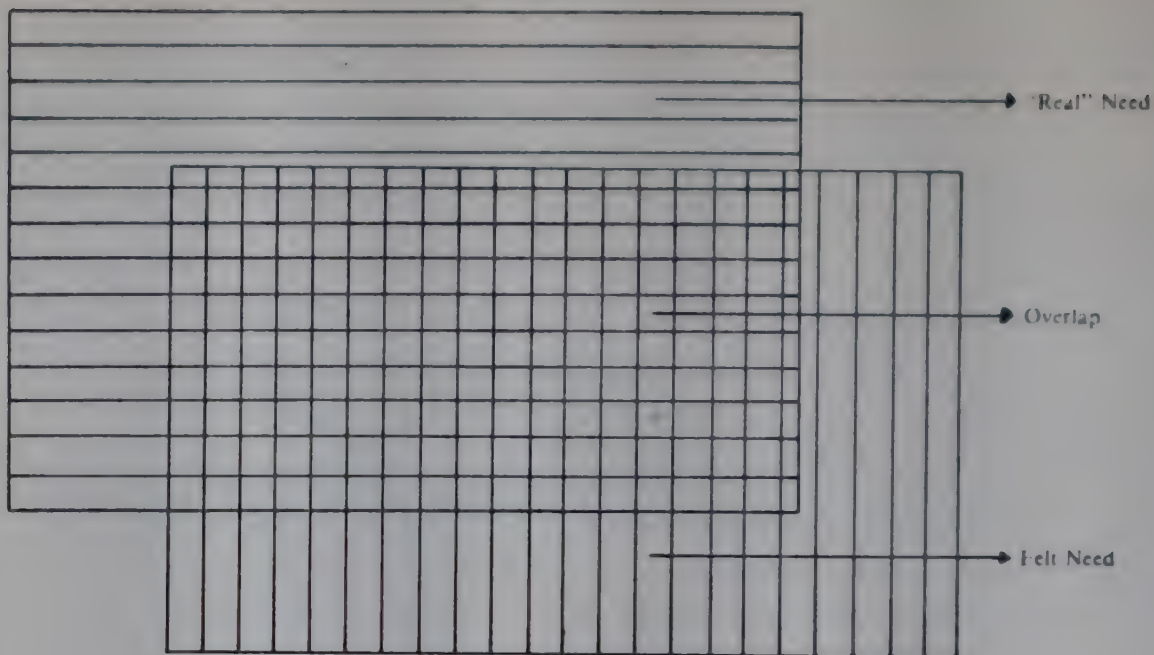
(5) Involvement of democratic institutions at various levels in the administration of a health service system follows as a corollary to (4) above. These institutions can not only project the felt needs of the people, but can also be used to actively generate felt needs within the community to cover a wider area of epidemiologically defined problems, if the health services happen to have additional unutilised capacity (Diagram 3).

### **Intramural Changes**

As has been pointed out in Chapter 13, changes in the relationship between a hospital and the community it serves forms the most dominant feature of the changing role of hospitals in the context of primary health care. These changes call for many changes in the internal functioning of a hospital. However, certain additional changes in the internal functioning of a hospital are also relevant to the role of hospitals in primary health care.

While it can be immediately conceded that hospitals are meant to provide some technological services which requires their own norms and procedures (such as diagnostic procedures, surgical operations and other treatment regimens), there has also been a tendency to add an overcoating of mystification to these services, ostensibly to impress the patients and the general public. Because of this, patients are made to put up with certain additional inconvenience in the course of their stay in hospitals. In the first place, apart from the element of mystification and manifestly alien norms and procedures that are required for providing technological services, hospitals, which are a product of Western industrial culture, are often implanted on an entirely different cultural setting *in toto*, on a 'turnkey' basis.

DIAGRAM — I



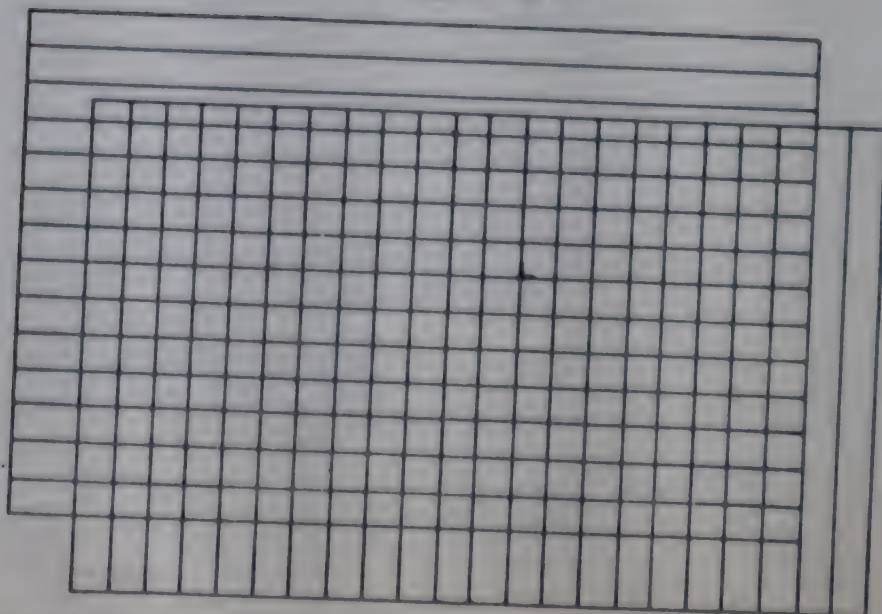
*Overlap of Epidemiologically Defined ("Real") Need and Community Felt Need*

DIAGRAM — II



*Consequence of Covering the Area of Overlap with a Suitable Programme*

DIAGRAM — III



*Health Education where there are Unlimited Resources, all Real Needs not Overlapped, and Felt Needs that are not Real Needs are not wiped out*

Furthermore, a public hospital has to cope with patients who belong to a very wide spectrum of social and cultural groupings. A cabinet minister or a top business magnate being admitted to an exclusive and luxurious 'paying' suite and admission of a pavement dweller in the same city, are at the two extremes. For supporting primary health care, the entire hospital system—physicians, nurses, administrative and other supporting staff—will have to face the formidable cultural challenge of making the destitute patients feel at 'home' in the hospitals. Hospitals, in other words, must bring about profound readjustments in their culture in order to respond to the needs of the culture of patients coming from the more deprived sections of the community.

Having brought about these cultural changes, as far as is possible within given technological, social and economic constraints, yet another task confronts hospital administrators: promoting reciprocal changes among the patients and within the community at large through the use of various techniques of health education and public relations. Obviously, understanding of such social science aspects as the health culture of the community, its power structure and the communication system within it, must form the foundation for the formulation of programmes for health education and public relations in hospitals.

## **LEPROSY**

Integration of leprosy work with the general health services forms the cornerstone of the suggested alternative. The observations of the Assistant Director General of Health Services (Leprosy) and of the State Leprosy Officer, Tamil Nadu (Rao 1982) that leprosy work suffered when it was integrated with the general health services in the Multipurpose Workers' Scheme, may be very valid. However, as is evident from the findings of the Chingleput study (Rao 1982), the solution does not lie in making leprosy a vertical programme: emphasising the 'essentiality of verticality'. The solution lies in removing the stigma attached to leprosy workers and leprosy work within the health services. Because of this stigma, leprosy has not received the attention and care the suffering it causes to a community demands. The categorical political commitment now increasingly in evidence and the increasing realisation among health administrators concerning the urgent need for more intensive work in the field of leprosy is expected to provide a major thrust towards removing the stigma. The implementation of the recommendations of the Working Group concerning upgrading the posts in the leprosy control programme will be a positive step in this direction.

If the basic postulate of dealing with leprosy as an integrated component of general health services is accepted, the leprosy programme will receive a powerful boost from the accepted strategy of providing health for all by the end of the century. Leprosy work will then become an integral part of the duties of the community health workers (guides), male and female multipurpose workers and the supervisory echelons. In the context of the findings of the Chingleput study, the role of the community health worker (guide) becomes very critical. As one belonging to the community itself, she/he becomes an important medium for communicating a correct perspective to the community concerning the nature of the disease and its curability, and impressing on patients the utmost importance of undertaking the prescribed treatment. The community health worker also becomes a valuable drug distribution agent. She/he can also be helpful in ensuring that leprosy patients receive the proper services for intercurrent ailments. Another feature of the alternative strategy is that the two multipurpose workers and their immediate supervisors can provide second or their lines of support to patients in case of failure of the community health worker.

Upgraded and strengthened leprosy cells at district, state and national levels will provide additional strength to leprosy control work by providing 'staff' support for leprosy control to the general health services.

Leprosy work as an integral part of general health services certainly cannot be considered as a hindrance to launching a concerted attack on the disease as a community health problem. The principle of integration is not inconsistent with emphasis on a specific health problem which might be singled out as a cause of extensive suffering and devastation within a community. This emphasis could also involve a very elaborate mass communication and education drive in areas where leprosy is highly endemic.

Such an integrated approach also puts the research priorities in their correct perspective. Research on the various aspects of the epidemiology of the disease, clinical field trials of chemotherapeutic drugs in their various permutations and combinations and for varying durations, developing an inter-disciplinary approach to formulate a nationally applicable, socially acceptable and epidemiologically effective leprosy programme for India within the constraints of the available resources, are urgent areas for research. Leprosy research to develop vaccines or 'immune modules' and to promote *in vitro* culture gets subordinated to the requirements of the programme as determined by an analysis of its functioning under field conditions.

Instead of the laboratory deciding what should be handed down to leprosy patients, it should be the requirements of leprosy patients and the community at large which should determine the priority and the pattern of leprosy research that should be carried out.

## PERSPECTIVES

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FROM the foregoing description, analysis and assessment of health services in India, it is possible to identify certain considerations which will help in forecasting the possible directions in which health services are likely to develop in the coming years.

Some of these considerations tend to be negative in nature leading to a less cheerful view of the future. Others indicate a more positive trend which makes possible a more optimistic forecast. The overall perspective for the future of health services is derived by taking both these trends into consideration.

The most glaring negative aspect is the grinding poverty and hunger. This has led to extremely unfavourable conditions of living and high morbidity and mortality. Rapid population growth is also a product of such an adverse ecological setting.

The social structure which is associated with such a setting pushes a small elite class to a very powerful position. This class has acquired considerable political power through control of means of production. The bureaucracy and the professional sections actively assist this elite, if not actually belonging to it.

These forces continue to use the colonial legacy as a heritage to perpetuate an urban-curative-and privileged-class-oriented health service system in the country, leaving vast masses of the people unserved or underserved. This orientation has also proved profitable to foreign interests. The use of force in the family planning programme is a reflection of these developments.

Had these been the only forces acting to shape the health services of the country, there would not have been much to look forward to. However, commitments the leadership made during the national movement to democracy, democratic institutions and building up of a socialistic pattern of society have contributed to some degree of democratisation among the

people. This is reflected in the changes that have taken place in the policies, plans and programmes since independence. It has resulted in the building up of a wide network of health services and a strong institutional base for education, training and research.

Worldwide acceptance of the concept of primary health care emphasises the role played by forces of democratisation on a global plane. The fact that India had anticipated this philosophy and has made considerable progress in this direction shows the strength of the forces of democratisation acting within the country. Failure of coercive and other methods in controlling rapid population growth has turned out to be a powerful stimulus for growth and development in health services as also in other socio-economic fields such as status of women, education, employment and land reforms. It is recognised that these areas need to be urgently attended to if only to avert the far reaching consequences of unbridled population growth. Thus, ironically, the population growth among the oppressed people has unwittingly given them a potent weapon to wrest their democratic rights to from their oppressors.

An increasing number of persons belonging to the privileged class are joining the underprivileged in their struggle for democratic rights. Concurrently, contradictions within the elite class itself have sharpened. Various groups among the privileged are vying among themselves to gain electoral support from the deprived sections by promising to concede several of their demands. The pledge to remove poverty and cater to needs of the weaker sections are examples of this. As the health status of a population is closely linked with political development, these changes augur well for the growth of sound health services as part of the overall socio-economic development programmes. The situation will become increasingly favourable to the formulation of improved strategies for making health services more accessible to the unserved and underserved. For this task, the network of services and institutions already in position will be a valuable asset.

## SUMMARY

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THE foregoing study has concerned itself with various aspects of development of health services in India in a historical perspective. As this development is a direct concomitant of the health problems and health practices of a community, the study has briefly dealt with India's ecological, social, economic and political systems insofar as they influence the size, extent and nature of the community's health problems.

Colonial rule led to the impoverishment and pauperisation of large masses of people. This led to a disruption in their health culture and health practices and by the time India attained independence all these forces had together created an ecological setting conducive to very high prevalence and incidence of a variety of diseases.

Even during the struggle against colonial rule, the national leadership had begun thinking about the adverse health conditions prevailing in the country. The Sokhey Committee and the Bhore Committee were landmarks in providing blueprints for future action in this sphere. This was part of the commitment of India's national leadership to the achievement of health for all at the earliest.

With the coming of independence, India embarked on the implementation of a comprehensive rural health service through primary health centres, health planning as part of the national socio-economic plan, mass campaigns against communicable diseases, social orientation of medical education and training of auxiliary workers of various kinds, population control through a national programme for integrated family planning, promotion of indigenous systems of medicine, provision of adequate water supply, environmental sanitation, nutrition and so on. These trends culminated in the launching of the Multipurpose Workers Scheme in 1972 and the Rural Health Scheme for entrusting "people's health in people's hands" through community health workers in 1977. The series of programmes and experi-

ments undertaken by the leadership show the intimate link up of policies, plans and programmes of this period with the aspirations and objectives of the national movement.

However, the success that was envisioned has been very difficult to come by, specially in the sphere of health. Achievements are many and significant—in terms of lowering of birth rates and increase in life span, eradication of smallpox, reduction in incidence of malaria, the wide network of health services institutions and institutions for training and education in health established, training of a vast army of health workers of all types and different kinds of research. But, to this day, not every household in the country is able to avail of minimum health care services. Either it does not have the means or the services are not near its doorstep. This, despite the avowed adherence to such concepts as 'community participation', 'community involvement', 'community-based health services', 'community self-reliance', 'community mobilisation', and 'community organisation'. Using such terms as worn-out cliches, political leaders, public health physicians and social scientists have failed to establish a genuine relationship between a community and its health services. This is a reflection of the value-position of decision-makers, planners and those involved in implementation. They belong mainly to the upper class and hold all the political and economic power in their hands. Their interests as well as their health problems do not coincide with those of the masses of the people but rather with those of elite of the advanced countries. Consequently, they have been instrumental in the development of an urban curative-privileged-class-oriented health service system.

Considerable thought has been given to reorienting this health service system, and over the years several commissions, committees and study groups have pondered over it. Almost all of them have emphasised the need for radical change. In this context, the latest alternative strategies proposed by the Planning Commission's Working Group on Health and the ICSSR-ICMR Study Group are of considerable significance, and the Sixth Plan attempted to incorporate them in various health programmes. However, there are several shortcomings in the strategies proposed by these groups. For instance, the ICSSR-ICMR study has in fact, not even attempted an in depth analysis of the existing model and the lacunae in its functioning.

In the present study, an alternative strategy has been suggested. Its central premise is: to start with the people instead of fitting people within a predetermined framework of health services; to devise a framework designed and specially tailored to suit the requirements of the people. All the technological elements of the health services must be subordinated to the needs of the people. They should be in consonance with existing health

behaviour, health institutions and health care delivery agencies in the community. They should also fit in well with the social and cultural setting so that available resources prove sufficient for the purpose.

In fact, the road to another approach to health service development can be a road towards bringing about changes in all other social and economic spheres.

## EPILOGUE : POSTULATES OF A THEORY

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### THE WESTERN MODEL AND THE THIRD WORLD

AN account of health services development in India and analysis of this development in terms of specific conditions prevailing in India society at different periods have led to the formation of certain postulates of a theory on the pattern of relationship between the two. A foreign 'model' always remains foreign in a country when it is sought to be grafted; it is certain conditions prevailing in a society at a particular time which determines the structure and functioning of the health services of the country.

In the case of India, whatever may be their quality or access, the indigenous systems of medicine are undigenous. The Western system of medicine (or the 'Western Model') has not been so. It was grafted into the country. At first it was unabashed imitation of the British system, with the aim of producing physicians on the notion of a Brown Englishman of Lord Macaulay (Banerji 1975b). The curriculum for the medical colleges was the same and their implementation was overseen by the General Medical Council of Great Britain. The British royal colleges remained the custodians of higher education in medicine. Other medical institutions (e.g. hospitals and dispensaries) were also established on the British model—even in the architecture of the buildings.

Identification by the colonial rulers of 'Tropical Medicine' as a special entity in the tropics was one of the first attempts at adaptation of the 'Western Model'. Significantly, this was done more for the sake of the military, than for the natives. This tradition of military medicine was carried through the two World Wars into the 1960s, when the South East Asian Treaty Organisation (SEATO) established the Cholera Research Centre at Dhaka and Bangkok became an important centre for international research on haemorrhagic fever, because of the importance of the disease for American troops then fighting the war in Vietnam. Expectedly,

London, Brussels, Antwerp, Paris and Amsterdam became important centres for education, training and research on tropical diseases.

As pointed out in Chapter 2, interplay of certain political and social forces led to recommendations of the Sokhey Committee (National Planning Committee 1946a) and the Bhore Committee (Government of India 1946a). After independence, these recommendations gave a powerful thrust and a new direction to health service development in India. The concept of a primary health centre and its sub-centres, integration of curative, preventive, promotive and rehabilitative services, social orientation of medical education, and extensive use of various kinds of auxiliary health workers, are examples of efforts to make innovations to relate health services to conditions prevailing in the country. Employment of community based health workers represents yet another major development in this direction.

The national programmes against major health problems have hardly any parallel in Western countries. Similarly, organization of mass camps for male and female sterilisations, often involving extensive use of laparoscopy for females, and insertion of IUD by auxiliary nurse midwives represent innovative efforts in the field of family planning to suit the needs of specific situations.

The research efforts which led to the formulation of the National Tuberculosis Programme gave a deeper social meaning and a new direction to the development of health services in India (Banerji 1971b). Here, people, rather than technological approaches, were the starting point; an understanding of community responses to the problem of tuberculosis was used to formulate people oriented technologies. This technological approach was dovetailed with the organization and management of the general health services and with the overall socio-political dynamics in the country.

Hospitals have occupied a pivotal position throughout the history of health services in the West. This was also the case in this country during the colonial period. However, concerted efforts have been made in the post-colonial period to bring about a more balanced growth of health services through much greater expansion of the peripheral health services and developing linkages between the latter and the hospital system. Indeed, it is this anxiety to relate the hospital system to the overall health service needs of the community which had led the Government of India, as late as in 1982, to strongly criticize the existing system (Government of India 1982a), denouncing it as one which 'has been largely engendered by the almost wholesale adoption of health manpower development policies and the establishment of curative centres based on the Western models, which are inappropriate and irrelevant to the real needs of our people and socio-economic conditions obtaining in the country. . . . The prevailing policies in regard to the education and training of medical and health personnel,

at various levels, has resulted in the development of a cultural gap between the people and the personnel providing care. The various health programme have, by and large, failed to involve individuals and families in establishing a self-reliant community. . . . . That the ultimate goal of achieving a satisfactory health status for all our people cannot be secured without involving the community in the identification of their health needs and priorities as well as in the implementation and management of the various health and related programmes'.

To be sure, there is also strong pressure from the other side, emphasizing that India must keep pace with the rapid technological developments in hospital care in the West. As a consequence, high technology units have been established in many apical hospitals in the country. However, even in this limited area of sophisticated hospitals, differences between the two systems far outweigh similarities. The differences lie in the disease profile of the patients, in the structure of the overall hospital and the medical care system of the country (ranging from subsidiary health centres up to apical hospitals), in the pattern of financing of the system, in the choice of technology, in the staffing pattern and, most important, virtually in all facets of the culture and human relations within a hospital.

Thus, it seems as if a very powerful force is at play which, in spite of sustained resistance, has been moving the health service system farther and farther away from the Western Model. This force has emerged from the prevailing ecological, social, cultural, political, economic and epidemiological conditions. A fundamental postulate can be derived from this analysis: *that the health services of any country can be studied only in terms of an understanding of this force, which is rooted in the specific conditions prevailing in that country.* Indeed, the account of the history of health services in India, given in this book, can be said to mirror the cultural, social, economic, and political history of the country: it mirrors the struggle of the oppressed people to wrest their rights from the ruling class.

Admittedly, human beings anywhere in the world have almost the same anatomical configurations, physiological activities and pharmacological responses. Disease causative agents cause similar pathological changes in them and they have similar responses to therapeutic interventions. However, it is important to note that these elements of medical sciences are used under different conditions in different communities. In any case, they form only a small component of the practice of Western medicine. They are merely the bricks of edifices that are built under different conditions. In terms of other components of practice of Western medicine, there are many fundamental differences between Western industrialized countries (i.e. the North) and the Third World (i.e. the South). The North and the South are indeed poles apart in the practice of Western medicine. Performance of a

delicate heart operation by a pediatric surgeon in a sophisticated hospital in an affluent country and treatment of a severe case of diarrhoea in a child by oral rehydration by the mother in a remote hamlet in the Himalay, underline extreme variations in the practice of Western medicine.

The difference in these two models of practice of Western medicine is in the terms of : (a) relevance of different elements of medical sciences; (b) formation of technologies that embody those elements of medical sciences; and, (c) organisation and management of the health services for the 'delivery' of the chosen technology. Interplay of the complex factors associated with the prevailing ecological setting, epidemiological situations and cultural, social, political and economic conditions have brought about these major differences in the two models.

### THE BASE AND THE SUPERSTRUCTURE

In a Third World country like India, extensive prevalence of poverty is by far the most important factor in the creation of very unfavourable ecological conditions. These conditions generate a variety of health hazards. They also influence the entire way of life (i.e. the culture) and the social structure. In turn, the social structure influencing generates the economic and political conditions which are responsible for the prevalence of poor ecological conditions and of poverty. It is thus a complex cyclic or a spiral process, with the way of life being the prime mover.

As has been pointed out in Chapter 1, health service development in the country should be studied in terms of the cultural response to the complex process, referred to above. This response generates: (a) cultural perception of health hazards and their cultural meaning; (b) health behaviour; and (c) various forms of health technologies, practitioners and institutions, through cultural innovation, cultural diffusion and/or through purposive intervention from outside agencies. Thus, this complex process forms the *foundation* or the *base*\* on which the health service system of a country is built. Just as the relations of production appropriate to a given stage in the development of the material forces of production condition the social, political and intellectual life of a community,\*\* the complex conditions forming the base determine the shape of the health service system or

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\*I would have liked to use the word infrastructure, but I had to avoid using it because it has a more specific meaning in Marxist terminology and the term is also commonly used in India to denote health institutions at the periphery.

\*\*Marx, quoted from Marx, Engels and Lenin (1972) : *On Historical Materialism : A Collection*, Moscow : Progress Publishers, p. 137.

the superstructure and its subsequent growth and development. The base thus places a constraint on the architecture of the edifice that can be built on it.

The task before socially sensitive community health physicians in the Third World is to become architects who have the competence to understand the basal (i.e., concerning the base or the 'infrastructure') conditions, both at a given time and in a time dimension, and use such understanding to build a superstructure which can maximise the alleviation of suffering due to health hazards, again both at a given time and in a time dimension. It may be noted that production of architects is itself a function of the dynamic interactions within the base. When there is a strong democratic movement within a socio-political system, it is conducive to the formation of more competent socially sensitive community health physicians and in larger numbers.

Sometimes, as a result of the struggle of the masses, the basal conditions may be favourable to building a stronger edifice of people-oriented health service system; the reverse may be the case on other occasions. It may be emphasised that favourable basal conditions do not automatically lead to the formation of a stronger superstructure. A society would need a balanced team of architects, engineers, masons and other workers to take full advantage of the favourable basal conditions. The onus for attaining this balance is on those who lead the struggle of the masses.

### **COMPARISON OF HEALTH SERVICES SYSTEM**

Three categories of countries are included in this analysis. They are categorised in terms of the degree to which the masses have struggled to wrest their rights.

There are still many instances of the extreme cases of countries in the world where a very thin upper crust of the population formed by the privileged class exercises almost total political and economic control. These are usually very poor countries; ecological conditions are very unfavourable and these countries have very high morbidity and mortality rates. The class structure explains why a bulk of the very limited resources are used up in these countries to employ contractors from affluent countries to build ultra-modern hospitals on a turnkey basis. That even an absolute economic and political control by the privileged class is not enough for the graft of high technology to take roots in the country becomes evident when other elements in the base (e.g. cultural, social, managerial and technological elements) start coming into play and they cause gradual erosion of the system. Soon, the system gets maimed and distorted almost out of recognition.

Some people from the privileged class respond to this situation by seeking treatment for their cardiovascular, metabolic and other such disorders of affluence by physically going to affluent countries. But there too they are not always able to escape the curse of the base; sometimes even the most clever physicians and surgeons in the West get baffled when they encounter natives with an amoebic liver abscess or with syphilitic general paralysis of the insane or with chronic bacillary dysentery: Or, while some of the privileged may earn some extra years of life by getting a coronary bypass successfully performed abroad, the ecological conditions in the native country may strike back at a few of the them by pulling them down with a fatal blow of cerebral malaria !

Finally, in this extreme case of countries, the base is usually very unstable and it is more liable to undergo change because of gains achieved by the struggling masses. These basal changes increase the scope for building health services which are more relevant to community needs and which have wider coverage.

In countries with a longer history of mass struggle for their democratic rights, first against colonialism and then against the new ruling class, the relation between the base and the superstructure becomes much more vivid and meaningful. As has been shown in the case of India, over the years, there has been a sweeping panorama of changes in the superstructure of the health services, corresponding to the changes in the base. These changes have moved the health services farther and farther away from the Western Model. These changes almost forced the formation of new types architects to build new edifices in alignment with the new configurations in the base. Without doubt, the ruling class is still very powerful in these countries and it continues to exert enormous pressure to have for themselves state-financed, urban based, highly sophisticated curative services; but here the interesting aspect is the degree of gains made by the masses through their struggle to bend and mould the health services in their favour.

As India, Bangladesh and Pakistan shared the same basal conditions before 1947, it is interesting to make a comparative study of the development of the health service systems of these three countries during the past thirty-eight years. Even if comparison is made in terms of social orientation of medical education, rural-urban ratio of allocation of resources and community involvement, the differences become quite obvious (Chaudhri 1981; Zaidi 1985; Chen 1975; Segall 1975). Once again, these differences are attributable to differences in the changes that have occurred in the bases of these three countries since 1947.

In the case of health service development in India, described in this book, it is the architects—the community health physicians—who have not been able to take full advantage of the concessions that have been wrested by the masses from the ruling class. As has been pointed out

earlier, to be able to do so, it is necessary to have larger group (i.e., a critical mass) of more competent community physicians who are able to: (a) understand the dynamics of interactions among the different elements in the base; (b) develop social dimensions of epidemiology of health problems; (c) develop people-oriented technologies; and (d) reorient or form suitable health service systems to deliver those technologies. In the few cases where this is achieved, community health physicians can join the masses to struggle side by side with them for wresting still greater concessions from the ruling class. Here, the physicians play a direct political role. Furthermore, by meeting the needs of the people to a greater extent, community health physicians can (obviously on a modest scale) stimulate greater changes within the base by boosting the fighting power of the masses. As any other community based programme, health services can also offer entry points to community level workers to struggle for getting action in other areas, e.g. education, employment and social justice.

In the case of other non-Western countries where the masses have been successful in overthrowing the ruling class, the convulsive changes brought about in the base have led to spectacular developments in the health services. China (Sidal and Sidal 1975; Lampton 1977), Cuba (Navarro 1972; Tejeiro 1975), Vietnam (Hoang 1972) and Nicaragua (Escudero 1981) fall in this category. Here, the failure of community health physicians to take advantage of the opportunities provided by the very favourable infrastructural (i.e. basal) conditions is even more pronounced.

In China, for instance, the Revolution in general, and the Long March in particular, taught the leadership the importance of Chinese Traditional Medicine and the relevance of a barefoot doctor; Dr. Dwarkanath Kotnis and his team (Kotnis 1983) provided a striking example of how Western medicine should be practised under most difficult conditions during the revolutionary struggle.

However, the leadership of post-revolutionary China adopted for itself a Western Model—in this case a Soviet Model. As late as in June 1965, Mao had stated\*: 'Tell the Ministry of Public Health that it only works for fifteen per cent of the population of the country and this fifteen per cent is mainly composed of gentlemen while the broad masses of peasants do not get any medical treatment . . . why not change its (i.e. Ministry of Public Health) name into the Ministry of Urban Health, the Ministry of Gentlemen's Health or even the Ministry of Urban Gentlemen's Health?' This was a prelude to the Cultural Revolution. The Cultural Revolution triggered yet another bout of convulsive changes in the base. Correspondingly, it led to the construction of a new superstructure of health

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\*Quoted in Lampton, D.M. (1977) *The Politics of Medicine in China: The Policy Process, 1947-77*, Folkstone, Dawson, p. 185).

services, which started from the peasant masses who were encouraged to be self-reliant by having their own barefoot doctors (Lampton 1977). The post-Mao period caused yet another upheaval within the base. This has an obvious impact on the health services, even though the changes due to this impact are yet to be fully assessed.

Health service system in countries like Mozambique (Jelly and Madlay 1984), Zimbabwe (Government of Zimbabwe 1983) and Ethiopia (UNESCO 1980) form a qualitatively different category because of difference in the nature of social transformation in these countries and the consequent basal conditions that are specific to each country.

Chile provides a more dramatic instance of setback in health services development. Compared to other countries of the Third World, it already had a long tradition of reasonably good health services. It made many more advancements with the election of Allende as the President (Navarro 1974). However, here too community health physicians have not been able to take full advantage of the opportunities provided by the changes in the base. Overthrow of Allende by the military dictatorship has once again put the clock back (Navarro 1976; Haignera 1983).

## **NEW APPROACHES TO EDUCATION OF COMMUNITY HEALTH PHYSICIANS**

Analysis of health service development in terms of changes in infrastructural conditions underlines the fact that: (a) it is a socio-cultural process; (b) it is a political process; and (c) it is a technological and managerial process, based on epidemiological and sociological perspectives. Socio-cultural processes are intrinsic to the population and are historically determined, providing the motive force (or the engine) for change. A lag is created when there is a shortfall in the response of the political leadership to aspirations of the people. There is another variety of lag when community health physicians are unable to keep pace with demands of the political leadership. Faster the rate of intrinsic changes within the population, the greater is the demand on the political leadership and community health physicians and the greater are the chances of developing lags in between the three tiers. This is well illustrated by the cases of India and China, referred to above.

To minimise this lag, health service development requires coordinated action between the political leadership, which is linked with the socio-cultural and political processes, and community health physicians, who have to develop the technological and managerial process. The political leadership is meant to respond to the infrastructural (i.e. basal) conditions and offer opportunities to community health physicians to build an edifice

of health services in consonance with the infrastructure. If the manpower available for this purpose is inadequate, in quality or in quantity, the political leadership has the additional responsibility of taking active steps to rectify the situation. Reciprocally, if the political leadership is not responding adequately to the democratic forces within a population, it becomes necessary for community health physicians to generate the needed action at the political level. In the implementation of India's National Tuberculosis Programme one finds an example of community health physicians exerting pressure on the political leadership to make them respond to felt needs of people.

Obviously, the Western Model for training of community health physicians is not adequate in countries having basically different infrastructural conditions. New directions have to be given to the discipline of community health (often called New Public Health), so that it responds to the new challenges. Many of these new directions have emerged in this book in the course of analysis of health and family planning services in India.

Developing a historical perspective of the democratic movements and relating it to a historical account of health service development, adoption of an epidemiological approach for analysis of the national health programmes and for formulating alternative approaches, analysis of political economy of health and health services, population control, maternal and child health and nutrition and addition of ecological, social and cultural dimensions to observed epidemiological and demographic phenomena (for instance, in Kerala) can be cited as some of the major examples of areas covered in the book which should form important contents of an academic programme for education of community health physicians in India.

The book also provides illustrations of other more specific dimensions of the new approaches to community health in the description and analysis of health planning, which includes intersectoral action for health, development of an endogenous reference frame for use for social sciences in health fields and presentation of specific alternative ideas in health education, health manpower development for promoting primary health care and use of techniques of operational research and systems analysis in promoting growth and development of health service systems in India. It may, however, be pointed out that even though the model of a New Public Health presented here is vastly different from the Western Model, as in the case of the wider health service system, there are certain basic scientific elements (e.g., epidemiology, research methodology and biostatistics) that are equally relevant to both the models.

The foregoing account of the new approaches to education of community health physicians in a country also gives an entirely different perspective to international and bilateral cooperation in health. Personnel

inducted from outside the country should not automatically get into position to 'teach the natives (the "gospel" from abroad)'. They should have an open mind to learn about the nature of the infrastructural conditions and about the inputs needed to build the superstructure. One of the reasons why a people-oriented national tuberculosis programme could be formulated at the National Tuberculosis Institute, Bangalore was that the large WHO group of twelve persons could work with an open mind together with their national counterparts as a well integrated team (Banerji, 1981b). Members of the WHO group made significant contributions. But they did not 'bring' these from abroad. These contributions could be made because the intellectual ferment which was generated as a result of their working together as members of the team.

### SUMMARY AND CONCLUSION

1. Grafting or thrusting of the Western Model of health services on India was almost a logical outcome of the colonial conquest and the subsequent consolidation of the colonial rule.
2. This was actively supported by the native privileged class because: (a) it was dependent and subservient to the colonial rulers; (b) it was alienated from the masses; (c) it had health problems which were similar to those of the colonial rulers; and (d) it had a common interest with the alien rulers (after independence, with foreign political and economic interests) in exploiting the masses and keeping them suppressed.
3. However, this joint exploitation of the masses generated two types of forces which tended to push the health service system farther and farther away from the Western Model: (a) the prevailing ecological and epidemiological conditions made many aspects of the Western Model conspicuously incongruous; (b) struggle for a people-oriented health service system became a component of the wider struggle of the masses against exploitation and oppression.
4. The complex of ecological, epidemiological, cultural, social, political and economic factors is termed as the base (or the infrastructure). This base determines the architecture of the edifice of health services of a country; that is, the base determines the superstructure of health services. Class struggle is the prime mover or the engine which generates interactions among the complex of factors. This is the fundamental postulate of the theory presented here.
5. Elements of medical sciences only form an element of the edifice; it is their use in the formation of technological approaches and organisation and management systems to deliver these technologies, which give shape to the edifice.

6. Health service development is thus: (a) a socio-cultural process; (b) a political process; and (c) a technological and managerial process, with an epidemiological and sociological perspective. There is often a lag between socio-cultural aspirations of the people and their articulation by the political leadership; the lag is much more between aspirations of the political leadership and community health physicians who have the responsibility for building the needed edifice of the health services. The task is to narrow, if not totally eliminate, lags that may exist within the three tiers.
7. Formation of a critical mass of community health physicians and other members of the team, which can take full advantage of the scope offered by the base, requires a new approach to education of community health physicians and other members of the team.
8. This book, with its analysis of health and family planning services, articulates and elaborates on many of the ideas which should form the content of New Public Health.
9. The concept of relation between the base and the superstructure in health services development of a country also provides an entirely different perspective for international and bilateral cooperation in health. Readymade solutions are not available from affluent countries. Persons from the North, who are inducted to work in the South, should have an open mind and intellectual and interpersonal competence to work as team members with their national counterparts to contribute to building a superstructure of health services which is firmly rooted in the base.

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Professor Debabar Banerji (b. 1930) graduated from Medical College Calcutta in 1953. Even as a student he had been concerned about the relevance of the Western Model of medical education and practice in India. This concern had impelled him work as a physician in Western Tibet and in the interior Himalayan tribal regions to relate the practice of Western medicine to the conditions obtaining there. He continued this line of work at the National Tuberculosis Institute, Bangalore (1959-64), at the National Institute of Health Administration and Education, New Delhi (1964-71) and at the Centre of Social Medicine and Community Health Jawaharlal Nehru University, New Delhi, where currently he is a Professor. His publications in the form of papers, chapters in books and monographs cover a number of facets of the extensive field of study of relationship between health technology and people and formulating people-oriented health technologies and programmes for India. A study of this relationship in nineteen villages from different parts of India for a period of nine years (1972-81) has been one of his major research contributions. His book, *Poverty, Class and Health Culture in India* contains a part of the report on the study. He is also the author of : *Family Planning in India : A Critique and a Perspective*.

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